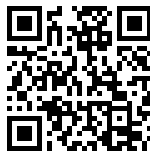

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L.C. B. 295 A

A HANDBOOK OF
MESOPOTAMIA

CORRECTIONS AND ADDITIONS TO
VOLUME III

CENTRAL MESOPOTAMIA
WITH SOUTHERN KURDISTAN AND THE
SYRIAN DESERT

*Prepared on behalf of the Admiralty and
the War Office*

Gt. Br. Naval Intelligence Division

JUNE, 1918

NAVAL STAFF

INTELLIGENCE DEPARTMENT

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NOTE

THE third volume of the *Handbook of Mesopotamia* includes routes along the middle Tigris and Euphrates from Baghdad and Fellujeh up to Mosul and Meskeneh, in the area between the rivers from Baghdad northwards to the Jebel Sinjar, in the country east of the middle Tigris towards the Persian frontier, and in the Syrian Desert west of the middle Euphrates.

The present Additions and Corrections are based partly on information dating from before the war, partly on recent intelligence (principally of 1917 and the first months of 1918). For the routes in the neighbourhood of the Persian frontier some Russian information has been used; most of it dates from before the war. Further information on the line Mosul—Deir ez-Zor (Routes 49 a-d in Vol. III of the *Handbook*) will be given in Additions and Corrections to Vol. IV.

All estimates of mileage must be considered as approximate only. In most cases they are based on the rough calculations of travellers, or on times given by travellers, or on sketch-maps or incomplete surveys. The question-marks placed beside some of the figures indicate that these are peculiarly doubtful: it is not implied that other figures may be regarded as exact.

It is necessary to emphasize the fact that in the circumstances the information given cannot be complete and that conditions are constantly undergoing change. The Admiralty will be glad to receive further corrections and additions.

The back of each page of text has been left blank for convenience of use with interleaved copies of the original edition.

ABBREVIATIONS

In the itineraries the following abbreviations and conventional signs may be noted :—

r. = right. l. = left.

h.w. = high water. l.w. = low water.

I. = Island.

T.L. = telegraph line.

T.O. = telegraph office.

P.O. = post office.

m. = miles.

Distances are given throughout in statute miles.

Alt. = altitude, which is given in feet above sea-level unless otherwise stated.

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RIVER ROUTES

THE TIGRIS AND THE LESSER ZĀB

ROUTE III D, pp. 19-39

BAGHDAD—SAMARRA (about 108½ m.)

Delete Route in text and substitute the following :

Authorities:—Military Report on E.T.A., vol. iii, 1904 (report of 1892); Lorimer, Report on a Tour in Turkish Arabia and Kurdistan, April-May 1910; Willcocks, Plans of the Irrigation of Mesopotamia, 1911; T. C. Maps 86 A, 90 A, 96 A, 116 (1917); other information, 1917.

The River.—As to depths there is no satisfactory information available. In the neighbourhood of the islands between m. 82 and m. 95 depths decline in places to 3 or 4 ft. when the river is low; see on the fords hereabouts additions to *Route 25 b.* See further below, under *Navigation.*

The bed of the Tigris from Baghdad up to the neighbourhood of the 'Adheim mouth (about m. 71) is alluvium. Among the islands between m. 82 and m. 95 it is shingle, sand, or rock; from about m. 95 to Samarra it is shingle, sand, clay, or rock.

The width of the river varies very considerably. Where it flows in a single channel its breadth seems to be usually 300-500 yds. But in places, and especially from the neighbourhood of Beled to near Samarra, it splits into several channels enclosing banks which are submerged in the flood season or islands which are permanently above water, though liable to alteration by the annual floods; in such places the river may be $\frac{3}{4}$ -1½ m. wide from bank to bank. Opposite Samarra it narrows to about 180 yds.

The islands mentioned above are said to be much subject to alteration by the annual floods.

Navigation.—When the river is high its navigation from Baghdad up to 'Baheirdeh' Island (m. 82) seems to present no special difficulties for vessels drawing up to 4 ft.

Near the islands (m. 82-m. 95) navigation is troublesome.

In March 1917 Turkish steamers passed up to and above Samarra (see further corrections to *Route III E*, introduction).

Steam-launches or motor-boats could probably navigate up to Samarra throughout the year.

Native sailing-boats (*safinehs*) of 8 tons can ascend to Samarra during the greater part of the year; but at the height of the flood season it might be impossible for them to make head against the current, and in low water they would need portage at places.

Traffic on this section of the river has been mainly carried on by rafts (*keleks*) navigating down-stream only. Adverse winds may make the *kelek* journey very slow (4 days or more). In high flood, without an adverse wind, the journey may take only 13-14 hrs. In fair weather rafts can travel all night. Coracles (*quffehs*) are used locally as ferry-boats and for down-stream journeys.

Banks.—Adequate information is not available.

From Baghdad to the neighbourhood of Sa'diyeh (m. 48½) and Sindiyyeh (m. 54½) the alluvial plains on either side of the Tigris are below the high flood-level of the river. The banks are bunded. If in flood-time the bunds are breached between Baghdad and El-Howeish on the l. bank (m. 37½) or a point in Meshāhidiyyeh tract on the r. bank (about m. 24-m. 27), the neighbourhood of Baghdad may be flooded. Spills which occur farther up-stream are reported not to reach as far as Baghdad.

Between Sindiyyeh (m. 54½) and the head of the Dujeil canal

Right Bank	Total distance Miles
Baghdad. Boat-bridge near Turkish Custom House (the upper bridge marked on T. C. Map 86 A). Date-plantations on both sides of the river above the town.	0
Kazimain.	4
	5
	5½
	6½
	7¾
	8½
(I. D. Sheet 2 C marks Hibneh about here.)	9½

(m. 99½) the banks are low in places (e. g. in the Dighāreh reach, above m. 55½, and in the Qubbān tract about m. 98): elsewhere they are fairly high—apparently 10–15 ft. above the river in May. The high banks of the old Nahrawān and El-Qa'im canal-beds are close to the l. bank in parts of this stretch of the river.

Above the head of the Dujail canal the Tigris flows in a valley 2–3 m. wide, on either side of which the ground rises sharply 30–50 ft. to slightly undulating plateaux.

Inhabitants.—Arabs of various tribes, partly settled, partly nomadic or semi-nomadic.

Along the right bank the following are mentioned: Meshāhideh in the Meshāhidiyeh tract and the adjoining districts, Beni Tamīm in the Husai and Zambur districts, Āl Bū Hayyazeh (apparently a section of the 'Obeid) in the Sufeil neighbourhood, Azzeh about opposite the 'Adheim mouth, Āl Bū Handhal at Es-Sefīneh, Āl Bū Daraj and Mujamma' between Es-Sefīneh and the Dujail, Āl Bū Nisan round Tineh. The Khasraj are found at Sumeikeh; and in the country round, besides the Mujamma', there are Muqadmeh, Jumeileh, and other small tribes. In the desert to west are Dilaim and Shammār. The Arabs on the right bank are mostly Sunnis.

On the left bank are found Jebūr, Juheish, Beni Tamīm at and near Sindiyyeh, Āl Bū Hayyazeh at Dōjmeh, 'Azzeh astride the 'Adheim. At least between Baghdad and Jeizani the Arabs on this bank are mostly Shiahs.

Inter-
mediate
distance
Miles

Left Bank

0

4

Mo'adhdham.

1

Beit Reshīd Pasha.

$\frac{3}{4}$

Dhalik.

$\frac{3}{4}$

Qireat.

1½

(I. D. Sheet 2 C (1915) marks Childāyeh about here.)

$\frac{1}{2}$

Lalumiyyeh. (I. D. Sheet 2 C (1915) marks the following villages between this point and Kādhim Pasha: Chaldāri, Ferājāt, Abu 'Ali, Haji Ahmad, El-Mīmār. The last is placed at the bend of the river where T. C. Map 86 A marks Ghumiriyyeh.)

1

Saaba.

Right Bank	Total distance Miles
Taji.	$9\frac{3}{4}$
(I. D. Sheet 2 C marks Ferhad about here.)	10
	11
	$11\frac{1}{2}$
	$12\frac{1}{4}$
	13
	$13\frac{1}{2}$
	$15\frac{1}{2}$
Beit Nawab.	16
	$16\frac{1}{4}$
Haseiweh , 6 houses of Meshāhideh. Mound called Tel Gosh . 'Aweijeh tract begins.	$16\frac{3}{4}$
	$17\frac{1}{4}$
'Aweijeh (30 houses of Meshāhideh) in this neighbourhood.	$17\frac{3}{4}$
	$19\frac{1}{4}?$
Meshāhidiyeh tract.	$21\frac{1}{4}$
From a point on the r. bank a short distance above 'Ali Effendi and near the head of a canal a track leads WNW. to Khān Meshāhidiyeh ($2\frac{1}{2}$ m.) and Meshāhidiyeh railway station (6 m.). Upper end of shoal off the right bank at this point.	$23\frac{3}{4}$
Bābi tract.	$25\frac{1}{2}$
At this point, where the river, as followed up-stream, bends from NNE. to SE., the road leading from Baghdad to opposite Mansūriyeh and Sa'diyeh touches the r. bank. About $\frac{3}{4}$ m. farther along this road towards Mansūriyeh a track reported passable for carts diverges NW. to the Baghdad—Samarra road, which it reaches at about 27 m. from Baghdad (about $7\frac{1}{2}$ m. from the river).	$26\frac{3}{4}$
	$27\frac{1}{2}$

Inter- mediate distance Miles	Left Bank
$\frac{1}{2}$	Safīayeh.
$\frac{1}{4}$	Ghumiriyeh.
1	Fahamad.
$\frac{1}{2}$	Kadhīm Pasha : mixed population of Jebur and Juheish.
$\frac{3}{4}$	Mahmud.
$\frac{3}{4}$	Jellatēh.
$\frac{1}{2}$	Part of Abu Dāli? (So T. C. Map 86 A.)
2	Abu Dāli , about 20 earth huts, with palm-groves. Between Abu Dāli and a point opposite Haseiweh apparently lies the head of the Nahr el-Pasha canal mentioned by Lorimer (1910). This canal is about 5 yds. wide with a bed several feet deep. It is usually dry; it carried no water in May 1910. The head is spanned by a brick bridge. There is a small village at its head and another a few minutes' walk up-stream. Both these villages are <i>waqf</i> .
$\frac{1}{2}$	Dabagiyat.
$\frac{1}{2}$	Dāūdiyeh tract. Poplar-trees on bank.
$\frac{1}{2}$	Masraf.
1 $\frac{1}{2}$?	
2	Dāūdiyeh , 15 houses of Shiah Arabs.
2 $\frac{1}{2}$	Sawākin , 10 houses of Shiah Arabs; two brick-kilns.
1 $\frac{3}{4}$	'Ali Effendi.
1 $\frac{1}{4}$	Reshīdiyeh , two-storied house and a few cultivators' huts.
$\frac{3}{4}$	

Right Bank	Total distance Miles
Between this point and opposite Jedeideh lies Mallūh tract.	32 $\frac{3}{4}$
Suweidiyeh tract begins in this neighbourhood and extends to opposite El-Howeish.	33 $\frac{3}{4}$?
Has-Hūs tract begins ; many water-lifts.	37 $\frac{1}{4}$
	37 $\frac{3}{4}$
	38
Many water-lifts.	40?
Tarmiyeh tract. River here is particularly broad : width in May 1910 about 600 yds.	41?
	43 $\frac{3}{4}$
	44
Head of Tarmiyeh canal, which runs to the Khōr Tarmiyeh, about 5-6 m. to the SW. Water is said to pass very seldom into the canal. Width of river here about 400-500 yds.	44 $\frac{1}{4}$
End of highly silted-up dry canal (an old head of the Tarmiyeh ?) is visible on the river-bank in this neighbourhood ; it is known as Ishān Tarmiyeh.	45?
	47 $\frac{1}{4}$?
	48 $\frac{1}{2}$
Grove of Euphrates poplar (<i>gharab</i>).	51 $\frac{1}{2}$?
This is a halting-place for caravans from Baghdad.	54 $\frac{1}{2}$

Inter- mediate distance Miles	Left Bank
	Between this point and Jedeideh lies Yehūdiyyeh tract.
5 $\frac{1}{4}$	Jedeideh on Baghdad—Kufri (Salāhiyeh) road: 200 houses (of Shiah Arabs) in date-groves enclosed by mud walls. Two khans; for details see <i>Route 25 a</i> , p. 144, m. 18 (text).
1?	
3 $\frac{1}{2}$	El-Howeish , 300 houses of Shiah Arabs.
$\frac{1}{2}$	Qasirīn , 100 houses of Shiah Arabs; date-groves.
$\frac{1}{4}$	Dyke along bank at river-bend: cf. <i>Route 25 a</i> , p. 145, m. 22 $\frac{1}{2}$. Between this bend and Mansūriyeh dense bushes 3–5 ft. high.
2?	Baqqah district (no village).
1?	
2 $\frac{3}{4}$	Shrine (Imām Beni el-'Abbās or Imām Mohammed Hasan?)
$\frac{1}{4}$	Mansūriyeh , 260–300 mud houses hidden from the river by date-groves; ferry.
$\frac{1}{4}$	
$\frac{3}{4}$?	
2 $\frac{1}{4}$?	Haji 'Umr irrigation pump.
1 $\frac{1}{4}$	Sa'diyeh , 100 houses of Shiah Arabs; date-groves extending 2 m.; shrine of Imām Ibn Hasan at S. end of village.
3?	Ferry of one <i>quffeh</i> in this neighbourhood.
3	Sindiyyeh , 100 houses of Shiah Arabs belonging to the Beni Tamīm, Dilaim, and other tribes. Date-groves extending for some distance above the village. Some lands here belong to the Mecca shrines and in 1910 were held on lease by Anwar Bey of the Haidarizadeh family of Baghdad. The Turks had a light railway from this place running towards 'Ain Lailah in the Hamrīn hills for the transport of

Right Bank	Total distance Miles
	55½
In the middle of Dighāreh reach the river was about ¼ m. wide in May 1910. R. bank low for some distance. High ground 1-1½ m. from bank.	
Husai tract; water-lifts. Beni Tamīm settlements.	56
Zambūr , camping-place of Beni Tamīm. (Lorimer puts this locality opposite Himmeh.)	57¾
	58
	59
Khadheireh tract.	62
Ahmed el-Fayyadh tract; 25-30 water-lifts. Above this tract is that of Sufeil .	64
	64½
' Aqab reach.	70
Head of canal running SE. ? (T. C. Map 96 A.)	
Head of old canal-bed running SSE. (One of these canal-beds is the 'Aqab, dry canal with raised banks, 20 yds. broad, running SE. from Tigris bank 'nearly opposite' 'Adheim mouth.)	70¼
	70¾
(According to Lorimer the end on the r. bank of the shingly zone of the Tigris seems to be at Qubbat Shawālī.)	71¾
' Ausajeh . Camp of 'Azzeh Arabs, May 1910.	72½
	74
El-Habbāb . 'Walled camp' of 'Azzeh Arabs.	74½ ?

Inter-
mediate
distance
Miles

Left Bank

coal from the workings of Nasāleh near Kufri (Salāhiyeh). The SW. terminus of this railway was apparently about $\frac{3}{4}$ m. above the village.

1 **Jeizāni** date-groves. Jeizāni Saghīr (or El-Ajami) lies a little way ($\frac{1}{2}$ m. ?) inland ; it consists of 50-100 houses of Shiah Arabs.

Dighāreh reach begins. L. bank low.

$\frac{1}{2}$
1 $\frac{3}{4}$

$\frac{1}{4}$
1 Dry bed of Nahrawān canal here about $\frac{1}{2}$ m. from l. bank. **Himmeh**.

Quwar reach above Himmeh.

(Lorimer places this reach above Dōjmeh ; its name is derived from brick-kilns, apparently on the l. bank.)

3
2 **Dōjmeh**, large settlement of Jebur and Āl Bū Hayyāzeh.

$\frac{1}{2}$
Ground on l. bank intersected by ravines. The river on this side has apparently cut into and destroyed a section of the Nahrawān canal.

Khān es-Sefineh, which used to be a Turkish Government grain-store, is said to be somewhere opposite Ahmed el-Fayyadh, about $\frac{1}{2}$ m. from the river.

5 $\frac{1}{2}$

$\frac{1}{4}$

$\frac{1}{2}$
1 Mouth of 'Adheim river. On the 'Adheim see additions to Route 25 b.

Shawali.

$\frac{3}{4}$
1 $\frac{1}{2}$

Nahrawān canal, running NW.-SE., passes close to r. bank.

$\frac{1}{2}$?

225/1011

11/10

10/1

Right Bank	Total distance Miles
Es-Sefineh , square enclosure, Turkish Government store for agricultural rents paid in kind.	78 $\frac{1}{4}$
River 'very shallow' here (T. C. Map 96 A).	
Baniyeh ? (Siniyeh ?). Old canal-beds. Upper end of old bed of Tigris.	79 $\frac{1}{2}$
Lower end of large island. According to report of June 1, 1917, its southern end is known as Biharir, its northern as Umm Talaib. Lorimer calls it Bahairiyah. The name Baheirdeh or Bihairdah (maps) is said not to be known locally. Channel by l. bank.	82
Qadriyeh ford across channels at S. end of island. For details see additions to <i>Route 25 b</i> .	82 $\frac{1}{2}$?
Beled lies about 4 m. E. by S. from r. bank (<i>Route 25 b</i> , m. 51).	
Upper end of 'Baheirdeh' I.	83 $\frac{1}{4}$
Lower end of Tutha I.	84 $\frac{1}{4}$
Channel by l. bank (1910).	85 $\frac{1}{4}$
In this neighbourhood is 'Aziz Beled ford across Tigris. For details see additions to <i>Route 25 b</i> .	85 $\frac{3}{4}$
Upper end of Tutha I. Sabiyeh ruins on r. bank.	87 $\frac{3}{4}$
Lower end of Darāwish I. Cultivated by Sawakineh; water-lifts.	88
Channel by l. bank (1910). Ford across channels by lower end of Darāwish. For details see additions to <i>Route 25 b</i> .	
Upper end of Darāwish I.	90
	92
Tel Jibbāreh.	
Ford in this neighbourhood (said to be about 15 m. below Samarra); for details see additions to <i>Route 25 b</i> .	92 $\frac{1}{2}$?

Inter- mediate distance	Left Bank
Miles $3\frac{3}{4}$	
$1\frac{1}{4}$	
$2\frac{1}{2}$	Channel by l. bank past 'Baheirdeh' I. ; see opposite.
$\frac{1}{2}$?	
$1\frac{1}{4}$	Khān Dhulu'iyeh.
1	
1	Ba'rurāh.
$\frac{1}{2}$	Channel by l. bank past Tutha I. (1910).
2	
$\frac{1}{4}$	Channel by l. bank past Darāwish I. (1910). Banks of Nahr el-Qa'im (dry canal-bed) close to the bank ; named 'Araf' on T. C. Map 116.
2	
2	Lower end of Barqeh I. ('At this season (May) an island' : Lorimer.) It appears that in 1910 the channel followed the r. bank. Khān Saurah marked on r. bank on T. C. Map 116. $\frac{1}{2}$? Khān Mizraqchi is up the l. bank channel past Barqeh I., 'one to two miles' from its upper end. According to Lorimer's informants Khān Sawiyeh, mentioned as being in this neighbourhood, is not another khān but the locality in which Khān Mizraqchi is situated. 'Khān Sawiyeh' may be identical with Khān Saurah mentioned above. Apparently above Khān Mizraqchi is El-Qanātir , a locality so called from remains of ancient dams and sluices.

Right Bank	Total distance Miles
Between Barqeh I. and the head of the Dujail canal Lorimer mentions the following :	94½
(a) Camp of Mujamma' Arabs, opposite El-Hawai (El-Hāwiyeh).	
(b) Ferry ; a hut and two or three sheds. T. L. crosses from r. to l. bank.	
(c) Qubbān tract below the Dujail ; Arab camps but no permanent village.	
On the r. bank in this stretch of the river (apparently about opposite El-Hawai) is the Sudd Nimrūd, the remains of an ancient rampart or dyke running SSW. from the river-bank.	
Head of Dujail canal. In 1892 this was reported to be 8-10 ft. broad at the bottom, with sides sloping 1 in 1, and to be sunk some 12 ft. below the plain. In 1917 a native of Samarra estimated the width of the Dujail at its head at 26 ft. (8 metres), and its depth below ground-level at 19½ ft. (6 metres). Its banks are about 12-14 ft. above ground-level. Water enters the canal when the Tigris is 4½-5 ft. (1½ metre) above l. w. level.	98 99½ ?
Istablāt , large ruin-field on high ground, and surrounded by remains of a city wall. Railway station. Turkish police-post.	100½ ?
(According to the native of Samarra, quoted under m. 99½, Istablāt is 2 m. above the head of the Dujail.)	
The river in this neighbourhood is said to contain several small rapids.	102½ ?
Tineh , 10 houses. Ford in this neighbourhood ; see additions to <i>Route 25 b.</i>	104½ ?
	108½ ?

Inter- mediate distance Miles	Left Bank
2	<p>Upper end of Barqeh I. ?</p> <p>Between Barqeh I. and Qadisryeh Lorimer mentions the following :</p> <p>(a) El-Hawai (El-Hawiyeh), 25 houses.</p> <p>(b) Ferry. T. L. crosses from r. to l. bank.</p> <p>(c) Head of ancient canal, much silted up, with high earthen banks (Nahr Jalsiyeh).</p>
$3\frac{1}{2}$ $1\frac{1}{2}$?	<p>Qādisiyeh ruins ; for details see additions to <i>Route 25 b.</i></p>
1 ?	
2 ?	<p>El-Qa'im, ruined tower of pebbles and concrete. Head of El-Qa'im (or Arfaf) dry canal.</p> <p>Ruin-fields extending up to Samarra.</p>
2 ?	
4 ?	<p>Samarra. Boat-bridge. The river here is about 180 yds. broad. Its current in mean water is 3 m. an hour. Its depth is considerable ; reliable details on this point are lacking. The l. bank is high (60-80 ft. above the river in l. w.) and shuts off the view of the town from the Tigris. The r. bank is said to be about 30 ft. high, and steep. The banks and river bottom are mainly firm earth with some sand (mostly on r. bank) and a few stones.</p>

ROUTE III E, pp. 38-77

SAMARRA—MOSUL

Introduction.—p. 40. *Navigation.* In March 1917 a number of Turkish steamers passed above Samarra. They apparently included the *Baghdad*, *Basra*, *Burhanieh*, *Hamidieh* (drawing 4-5 ft.); the *Julnar*; the *Khalifa* (drawing $3\frac{1}{2}$ -4 ft.); and the tug *Tekrit*. Of these the *Julnar* went aground at Hamra, 13 m. above Tekrit, and, though she was clear early in May, she apparently did not go farther up-stream, and was burnt by the Turks in November. The other steamers passed above the Fethah defile. The *Khalifa* was reported to be between Qal'ah Sherghat and Kaiyara in May. It is

m. $11\frac{1}{2}$ —m. $20\frac{1}{2}$. **Sinn Yehūdiyeh—Dūr.**

Approximate distances between Sinn Yehūdiyeh and Dūr should probably read as follows :

Right Bank	Total distance from Baghdad Miles
Mukeshefeh.	$11\frac{1}{2}$
Ford in this neighbourhood, said to be 13 m. above Samarra.	14
	16
Tel el-Mohaijir.	$17\frac{1}{4}$
Ford in this neighbourhood, said to be 4 m. above Mukeshefeh.	$17\frac{1}{2}$
	20 ?
	21

m. $20\frac{1}{2}$ —m. 31. **Dūr—Tekrit.**

For itinerary in text substitute the following :

Distances from T. C. Map 104-105. See also Note, p. 26.

even said that the tug *Tekrit* had gone as far as Hammām 'Ali. In November three steamers were seen moored on the r. bank of the river at a point E. of Bilalij (i.e. about 15 m. below Qal'ah Sherghat near Qal'at el-Bint). On December 9 there were three steamers moored on the r. bank in the Sabaih reach (i.e. at or near the same point as in November, this reach being the one immediately above Qal'at el-Bint). On December 14 they were apparently seen moored on the r. bank about 6 m. farther down-stream.

It has been reported that motor-boats have been constructed in Germany for use on this part of the Tigris.

m. $11\frac{1}{2}$ [Left Bank]. **Sinn Yehūdiyeh** is at the bend of the river S. of Abu Delef marked on T. C. Map 104 at square 8 E-F.

The 'minor arm of the Tigris', not marked on T. C. Map 104, is from Herzfeld's sketch-map and description (1908).

The Nahr en-Neifeh (see 3rd paragraph on p. 47) apparently runs NNE. and then N. (not NNW. as stated in text).

Inter- mediate distance Miles	Left Bank
—	
$2\frac{1}{2}$	Sinn Yehūdiyeh.
2	
$1\frac{1}{4}$	Qasr el-Mutawakkil.
$\frac{1}{4}$	Head of Nahr er-Rasāsi.
$2\frac{1}{2}?$	Haraqiyat rocks.
1	Dūr.

Right Bank	Total distance from Baghdad Miles
	21
	22?
Some cultivated land on r. bank worked by temporary settlers from Samarra (1910).	24½
Lorimer mentions a ford passable in l. w., ¼ hr.'s walk above the Dahri rocks.	25½
Authority of 1892 mentions a number of shingle banks in this part of the river, having 4-5 ft. of water over them (September). Their position may be changed by floods. In 1892 one of these banks, with 4 ft. of water next the l. bank, lay 2 m. below Hatreh rocks.	
Hatreh rocks. These are placed 7 m. above Dür by the authority of 1892. In September there were (a) two rocks showing 1 ft., and (b) a larger rock showing 8 ft., 50 yds. up-stream of the first two, at a bend of the river to E. (facing down-stream). The rocks are near the r. bank, and in September 1892 there was a deep channel 100 yds. wide along the l. bank. These are apparently the rocks which Lorimer passed at 1 hr. 32 min. by <i>kelek</i> below Tekrit, and found submerged but causing rough water (May 1910). He was told that in l. w. they stand out 'as high as a camel'.	28½?
El-Auja.	29¼
Ford in this neighbourhood, said to be 3½ m. below Tekrit.	
Cliffs begin on r. bank, 50 ft. high, extending up to Tekrit. They are cut up by ravines.	29½
Ford in this neighbourhood, said to be 2 m. below Tekrit.	31½
Authority of 1892 reports a slow deep reach below Tekrit, in which the channel in September was 250-300 yds. wide. In flood the river spreads into several minor channels (dry or nearly dry in September, enclosing small islands). The main channel is usually easy to navigate, but may be obliterated in flood. Patches of tamarisk and camel thorn on the banks.	
Tekrit.	33½

Inter- mediate distance Miles	Left Bank
—	Dūr.
1 ?	Dūr rocks. Some of these were visible in May 1910, others were submerged. The latter are said to rise 6 ft. above the water in the low season, dividing the river into several channels.
2½ ?	Dahri rocks. These consist (a) of a group of rocks which are submerged in h. w. but are said to be uncovered to about 2½ ft. in l. w., and (b) of a rock farther up-stream said to be submerged even in l. w. (Lorimer took 3 min. by <i>kelek</i> between the upper rock and the group below it.) Broken water.
1 ?	
3 ?	Channel follows l. bank past Hatreh rocks. See opposite.
¾	
¼	Hatreh.
2	El-Omelahieh.
2	

Note. (a) Distances according to authority of 1892:

	Miles from Tekrit
Tekrit.	0
Hatreh rock at E. bend of stream.	8
Diagonal shingle bank.	10
Dūr.	15

(b) Lorimer's times by raft (May 1910):

	hrs.	mins.
Tekrit.	0	0
End of Tekrit cliffs.	1	0
'Land called Hatrah' (Hatreh) on l. bank.	1	27
Rocks.	1	32
Upper Dahri rock.	2	7
Group of lower Dahri rocks.	2	10
Dūr rocks.	2	19
Dūr.	2	30

m. 31-m. 61½. **Tekrit—Shereimiyeh.**

Delete itinerary in text and substitute the following:

Approximate distances up to Khān el-Kharnīneh from T. C. Map 105. See also Notes (a) and (b), pp. 28-30.

Right Bank	Total distance from Baghdad Miles
Tekrit. Cliffs (mud and conglomerate) continue on r. bank. The cliffs are the E. side of a range of hills called Jebel Selweh.	33½
Channel makes a bend to E. away from the Jebel Selweh, leaving between it and the hills a strip of low ground called Hawi Matarideh.	37
In the channel opposite Hawi Matarideh is an island, above which are rocks opposite Tel es-Sūq. These were submerged in May 1910, but are said to be uncovered in l. w.	
Upper end of Hawi Matarideh. Steep conglomerate cliffs about 80 ft. high for 1½-2 m. along bank.	41
According to Lorimer the name of the hills W. of the river changes hereabouts from Jebel Selweh to Jebel Azjān.	
A ford passable in l. w. was reported in 1910 to exist at a point described as being ½ hr.'s walk above Jebel Selweh.	

Inter- mediate distance Miles	Left Bank
3½	Mohammed el-Hisan tract opposite Hawi Matarideh. Cultivation. Tel ez-Suq.

Right Bank	Total distance from Baghdad Miles
Gharhan tract.	42½
El-Karim reach above this point.	43
Mouth of Wādi el-Hamra opening on the river-trough from the E.	44
	47
Above this point the channel again bends to E. and leaves low cultivated ground between it and the cliffs.	48
	48½
Cliffs 70 ft. high near r. bank.	52
Qal'at Abu Riyāsh , ruined building on rocky cliffs above the river. Turkish guard-house (T. C. Map 105).	54
Above Abu Riyāsh the cliffs recede somewhat from the r. bank.	
Above Qal'at Abu Riyāsh there is a sandy plain on the r. bank about 6-7 m. long, and broadening out to a width of 1½-2 m. It is bounded on the W. by low hills.	
On islands above this point see Note (b), below.	
Khān el-Kharnīneh . Turkish guard-house among ruins above the Mosul road.	61
Umm el-Laqlaq island marked on T. C. Map 105 above Khan el-Kharnīneh.	
Shereimiyeh .	67 ?
Broad island between Shereimiyeh and Umm el-Laqlaq.	

Note. (a) Lorimer's times by *kelek*, May 1910:

	hrs.	mins.
Umm el-Laqlaq.	0	0
Shereimiyeh, 'a minute or two further down-stream'.		
Head of Nahr en-Neifeh.	1	5
Qal'at Abu Riyāsh.	2	40
Upper end of Hawi Matarideh.	4	45
Tel es-Suq and rocks in stream.	5	13
Lower end of Hawi Matarideh.	5	25
Tekrit.	6	0

(b) The following details are given by the authority of 1892 (*kelek*-journey in September):

Inter- mediate distance Miles	Left Bank
$1\frac{1}{2}$	Lower end of old bed of river.
$\frac{1}{2}$	Upper end of old bed of river.
1	
3	Lower end of Hamra island. Cliffs near r. bank (T. C. Map 105). Encampments of Jebur in this neighbourhood (1910).
1	
$\frac{1}{2}$	Upper end of Hamra island.
$3\frac{1}{2}$	
2	Encampments of Āl Bū 'Alī (1910).
7	Head of Nahr en-Neifeh in this neighbourhood, showing as a hollow between two mounds.
6?	Umm el-Laqlaq village.

	Miles from Sherei- miyeh
Sherei-miyeh.	0
Some shingly islands, with easy channel next the left bank, with 4 ft. of water.	2
Some more islands; central channel the best, with 6 ft. of water.	4
Below this is a slow deep reach and more shingly islands, the channel next the right bank being the best. At the top is a diagonal shingle ledge (with $3\frac{1}{2}$ -4 ft. of water) which causes a slight rapid.	7
Another diagonal ledge of shingle, with 4 ft. of water.	9
There are a few similar shingle banks, with plenty of water and easy to get over.	
Tekrit.	34

m. $61\frac{1}{2}$ -m. 185. **Sherei-miyeh—Mosul.**

The intermediate distances given in the text for this section are for the most part based on raft-times and are to be regarded as approximate only. See note at end of route.

The distances given below for this section are references to the text; the total distances from Samarra are probably 5 or 6 miles too short; see corrections above.

Right Bank	Total distance Miles
<i>Add:</i> 'The river at this point is about 150 yds. wide.'	62
	63
	66
	68
	$69\frac{1}{2}$ - $70\frac{1}{2}$
<i>Add:</i> 'Small island towards the r. bank.'	$70\frac{1}{2}$
	$71\frac{1}{2}$
<i>After</i> 'Channel near r. bank' <i>add:</i> 'Easy current.'	75
The mounds begin opposite Tel Marmūs.	88
In 1892 there was a small shingle island near the r. bank, $2\frac{1}{2}$ m. above the first of the mounds.	

Inter- mediate distance Miles	Left Bank
2	<p data-bbox="205 979 923 1007">'Umm el-Leieh' should probably read 'Umm el-Leileh'.</p> <p data-bbox="205 1036 656 1064"><i>Delete</i>: 'about 1 m. above the first.'</p> <p data-bbox="174 1067 939 1179">The intermediate distance here is probably over-estimated. Lorimer's raft took only 5 min. between the upper end of the gorge and the rapid opposite the upper end of the Khandidah islands.</p> <p data-bbox="174 1182 939 1244">The intermediate distance is given by the authority of 1892 as $1\frac{1}{2}$ m.</p> <p data-bbox="205 1273 715 1299"><i>Add</i>: 'The mound is about 60 ft. high.'</p>

Right Bank	Total distance Miles
Wādi Jihannam. <i>This entry should be transferred to m. 94.</i>	86
‘The gorge continues . . . Kaiyara oil-springs.’ The accuracy of these statements is doubtful.	
<i>Add:</i> ‘The upper reach is called Sabaih. The mouth of the Wādi Jihannam is near (just above?) Qal’at el-Bint; see corrections to m. 86.’	94
	95½
m. 98-m. 102. A short distance above Saqar en-Naml rocks the river (as followed up-stream) bends W. After another 3 or 4 m. the hills, which have receded somewhat from the r. bank, again approach it. The bend of the river noted in the text under m. 102 should probably be given as from NW. to NE. In an early account there is mention at the turn of an eddy which is dangerous when the river is high.	98
	102
About 2 m. above the point where the river bends N. the cliffs on the r. bank sink to low bluffs and the ruin-field of Qal’ah Sherghat begins.	104½
There is a good brick-built house at Qal’ah Sherghat, the head-quarters of the German Archaeological Mission. It stands on a promontory overlooking the river and has a large courtyard with stabling accommodation.	109
	112
	114½
Tel er-Raguba. This mound is some distance (? 1-1½ m.) above Matuk.	129½
‘ Tulūl esh-Shauk ’ should probably read ‘ Tulūl esh-Shōk ’.	148
	150½
A short distance (?about 1 m.) above the upper end of the island there are sulphur springs in the cliffs on the r. bank.	152
	164

Inter-
mediate
distance
Miles

Left Bank

Add: 'There is a Jebūr village here (40 huts), called **Gumbet el-Hadīdi** or **Sabaih**.'

For '**Shatt el-Jidr**' *read* '**Shati el-Jidr**'.

One authority seems to give the position of Abu Shārib rocks as not more than 3-4 m. above Saqar en-Naml.

For '**Tukul**' *read* '**Tulāl**'.

For '**Tukul**' *read* '**Tulāl**'. Tulāl Akir village should probably come under the same mileage as Mezār esh-Sherghat.

[*Note on Great Zāb, p. 69, 4th paragraph. Add:*

'The Turks have bridged the river at Quweir and Eski Kelek (see corrections to Route 25 a). They seem to have used Quweir as a starting-point for *keleks*.']

Selāmiyeh is a *dépôt* at which grain is loaded on rafts for transport to Baghdad.

Right Bank	Total distance Miles
The landing-place for Hammām 'Ali is at the lower end of the cultivated island mentioned above, and is marked by 2 dome-shaped hills, the higher of which, about 100 ft., is called Tel es-Sabt .	167½
<i>For '47°-48° C.' read 'about 116°-118° F.'</i>	
<i>Delete: 'The adjoining . . . high.'</i>	175½
The railway survey gives heights of 1,000 ft. above sea-level.	
NOTE. SEYYID HĀMID—MOSUL.	
Aublé's survey gives the following details and distances from Seyyid Hāmid (m. 158 in text).	
Islands near the r. bank.	0
Rapid.	2¼
	2¼
	3¼
Minera village. The hills retire a little from the r. bank, leaving a cultivated plain, which is flooded in h.w.	
Small island near the bank.	
Juheineh village. The r. bank here is steep.	5¼
Another village also called Juheineh . Here the hills for a short distance again approach the r. bank.	7
Hammām 'Ali , <i>tel</i> and village. Lower end of a cultivated island.	8
	8½
Upper end of island. Village.	9½
Hasslun village almost due S., about ¾ m. from the bank. About ¾ m. farther S. is Qabr el-'Abd on high ground.	11¾
El-Arej on the slope, 1½ m. to S.	
Three islands. Here the hills on the r. bank again approach the river.	12½
Lazzaqeh village.	13¼
Al Bū Juwāri village.	14¼
Kunetera village.	15¼
Lower end of an island about 2 m. long.	16¼
Suleiman Qasr . Rocky cliffs. Lower end of a large island. Alluvial tract on the r. bank.	17¾
Mosul .	21½

Inter- mediate distance Miles	Left Bank
	One authority places Humeireh village opposite Hammām Ali.
0	Seyyid Hāmid.
$2\frac{1}{4}$	Nimrūd village and <i>tel.</i>
$\frac{1}{2}$	'Uneifeh.
1	
2	
$1\frac{1}{4}$	Islands.
1	Village.
$\frac{1}{2}$	Village.
1	
$2\frac{1}{4}$	
$\frac{3}{4}$	
$\frac{3}{4}$	Ghazir village.
1	
1	Two islands in mid-stream.
1	
$1\frac{1}{2}$	
$3\frac{3}{4}$	Ruins of Nineveh.

ROUTE III F, pp. 76-91

THE LESSER ZĀB FROM ITS MOUTH TO TAKTAK

Introduction. A traveller in June 1910 took 12 hrs. on a raft-journey from Altun Köprü to the mouth of the Zāb (74 m.).

In the same year the Turks transported artillery from Altun Köprü to Baghdad by raft.

- m. 45 $\frac{1}{4}$. *Right Bank.* The entry referring to this mileage begins at 'Earth cliffs 80 ft. high . . .'
- m. 59 $\frac{3}{4}$. *Right Bank.* For ' $\frac{1}{4}$ m. wide' read ' $1\frac{1}{2}$ m. wide'.
- m. 62. *Right Bank.* Delete: 'the beginning of a loop to SE.'
- m. 73 $\frac{1}{2}$. *Right Bank.* Before 'Sharp bend, &c.' insert 'Shingle ledge with 2 ft. of water'.
- m. 74. *Left Bank.* Add: 'On the Altun Köprü bridge see corrections to *Gazetteer of Towns*, p. 115 below.
- m. 103. *Right Bank.* The entry referring to this mileage begins at 'Above the mouth . . .'

P. 91. *Add:*

NAVIGATION OF THE DIYĀLEH BETWEEN THE TIGRIS AND BĀQŪBEH

In fairly high water the Diyāleh is navigable for stern-wheelers and launches. In the middle of March 1917 the lowest depth was 3 ft. In high flood the minimum depth is 12 ft., but it is reported that nothing but a small motor-launch could then ascend the river owing to the sharp turns combined with a rapid current. *Safinchs* can navigate to Bāqūbeh in the h. w. season.

In the l. w. season the Diyāleh is not navigable, as almost all the water of the river is diverted to irrigation higher up-stream (e. g. into the Khalis, Beledrūz, and Khorāsān canals).

On the section of the river between its mouth and Bāqūbeh the lower reaches are shallower than the upper owing to the loss of water by irrigation.

The average width of the river is about 100 yds. (minimum 55 yds.; maximum 150 yds.). In March 1917 its current was 3 m. p. h. increasing to 4 m. p. h. at Bāqūbeh.

The river is more tortuous than it is represented on maps I. D. 2 C and T. C. 86, and the passing of upward and downward-bound

steamers would be difficult owing to the sharp bends and high banks. The range of vision is often only 200–300 yds.

THE EUPHRATES

INTRODUCTION (Pp. 92–95)

P. 93, 5th line. Delete: 'per hour'.

4th Paragraph. *Shakhtürs*. It appears that during the war *shakhtürs* have been built at Jerablüs as well as at Birijik for use on the Turks' Euphrates line of communication.

From information given by a *shakhtürji* it seems that the normal load for a *shakhtür* is about $2\frac{1}{4}$ tons.

Besides the ordinary native *shakhtür*, there is said to be now a larger type of German design. According to one account this large *shakhtür* is about three times the size of the ordinary kind.

Shakhtürs travel in pairs, two boats being lashed together.

The times taken by these boats in the descent of the river are very variable. According to the condition of the river and the wind, they make their journeys at rates varying from an average of about 55 miles a day (in high water without adverse winds) to an average of about 10 or 12 miles a day (in low water). They may be unable to proceed during a part or the whole of a day owing to contrary winds. They usually do not travel by night. The Turks have organized relays of *shakhtürjis* along the river.

It has been reported that it takes about 10 days for 9 men to tow 3 empty *shakhtürs* up-stream from Hit to Anah. This gives an average of about 12 miles a day.

Other craft. It seems that the metal rafts which were reported to be coming into use have not been employed, at least to any great extent. There are doubtful reports of shallow-draught stern-wheel launches being built or put together at Jerablüs.

P. 94, lines 1–2. *Recent improvements on the Euphrates waterway*. No exact or reliable information is available on this point, but it has been reported that some *naurs* have been destroyed, that life-saving apparatus has been established at the most dangerous points, that rocks have been blasted, and that a channel has been buoyed between Feheimeh and Hadiseh (see corrections to *Route IV F*). According to other reports, however, what has been done amounts to very little.

ROUTE IV E, pp. 96-101

FELLŪJEH—HĪT.

Corrections of Distances from T. C. Maps 100, 101.

- m. 3. Distance of river-bend from Fellūjah is about $2\frac{1}{2}$ m. Abu Tin on T. C. Map 100.
- m. 7. *Right Bank*.—‘Hereabouts . . . Baghdad—Aleppo road.’ *Transpose this entry to m. 3 (m. $2\frac{1}{2}$).*
Left Bank.—For ‘Ambar’ read ‘Anbar’.
 This ruin-field is about $\frac{1}{2}$ m. N. by E. of the river-bank at m. 5.
- m. 8. *Left Bank*.—‘Saqlāwiyeh village . . . by river up-stream.’
Delete this entry and substitute the following:
Saqlāwiyeh village is about 1 m. NNE. of this point. At m. $8\frac{1}{2}$ from Fellūjah, on the l. bank, is the head of a canal (Abu Sideriyeh ?) with regulator. According to T. C. Map 100 this canal runs past the S. and E. sides of Saqlāwiyeh village and is crossed by a masonry bridge at the SE. corner of the village, a little over 1 m. from the river. At m. 14 from Fellūjah, on the l. bank, is the Kanainiyeh head of the **Saqlāwiyeh Canal** (here called the Shatt Seriyeh), across which is a bund. See note on the Saqlāwiyeh below.
- m. 17. *Right Bank*.—‘**Habbāniyeh** lake is 4 m. SSW. of the river at this point.’ Distance of this point on the river from Fellūjah is about $16\frac{1}{2}$ m.
- m. 23. *Right Bank*. *Delete*: ‘Creek.’
- [m. 29. *Right Bank*.—Old bund running SSW. from high ground about $\frac{3}{4}$ m. distant.]
- m. 36. *Left Bank*.—*Delete*: ‘Near l. bank, small island?’
 T. C. Map 100 gives 3 small shoals or islands, lying towards the l. bank, about m. 32—m. $32\frac{1}{2}$, and another, lying towards the r. bank, about m. $33\frac{1}{2}$.
 At m. $35\frac{1}{2}$ —m. 36, on r. bank is the lower end of an old bed of the river, which curves to S., while the present channel bends to N. The upper end of this old bed is about m. $38\frac{1}{2}$.
- m. $39\frac{1}{2}$. *Right Bank*.—The head of the new canal-bed (Habbāniyeh Escape) is about m. $40\frac{1}{2}$. The regulator on this canal, carrying the Baghdad—Aleppo road, is about $\frac{1}{2}$ m. from the bank. On the cutting of this canal see under m. 17 in text (m. $16\frac{1}{2}$).

m. 40½. *Right Bank.*—**Ramādiyeh** is about m. 41. *In the third line of this entry, for 'about ½ m. from the river' read 'about ¼ m. from the river'.*

m. 41½. *Right Bank.*—For (**Azeziyeh**) read (**'Aziziyeh**).

The head of this canal is between m. 41½ and m. 41¾.

NOTE ON THE SAQLĀWIYEH CANAL

The Saqlāwiyeh Canal leads into Lake 'Aqarqūf, from which an outlet (Mahsudiyyeh or El-Kharr) drains into the Tigris about 3 m. S. of Baghdad (5½ m. below Baghdad by river).

When the bund at the head of the Saqlāwiyeh Canal breaks, the flood-water of the Euphrates passes down the canal into Lake 'Aqarqūf, and thence spills over the country in the neighbourhood of Baghdad. The bund was broken by the Turks in March 1917, but has now been repaired.

The Saqlāwiyeh Canal has a steep bed-slope, so that even when the Euphrates is at its lowest its water would escape, if allowed, into the canal to a depth of 4½ ft.

In May 1917, while the bund was broken, a launch drawing 2 ft. 5 in., towing a *maheileh* alongside, passed from the Tigris to the Euphrates by the Kharr Canal, Lake 'Aqarqūf, and the Saqlāwiyeh.

Between the Tigris and Lake 'Aqarqūf, where the channel is narrow, the minimum depth was 7 ft. The current was strong, especially on the stretch between the Tigris and the iron bridge over the Kharr (about 1 m.), where the launch had to be towed. Where the country along the canal was flooded from Lake 'Aqarqūf, navigation became difficult; the deep-water channel was missed and the launch went aground for some hours.

At the mouth of the Saqlāwiyeh on the east side of Lake 'Aqarqūf navigation was somewhat difficult. About 5 m. farther on, about ½ m. E. of the tomb of Ibrāhim ibn 'Ali, there was a shoal, over which a depth of only 2 ft. 2 in. was found. The launch had to be lightened and towed. The sand and silt on this shoal are constantly shifting. Current is 1-1½ knot.

Above the tomb of Ibrāhim ibn 'Ali the channel widened and deepened; width about 400 ft., depth over 9 ft., current 2-4 knots. As the Euphrates was approached the current increased in strength.

The launch and the *maheileh* had to be towed separately through the Kanainiyeh bund at the head of the canal. The towing of each vessel took an hour. There was a strong rush of water through the gap. Just below the head of the Saqlāwiyeh the Euphrates takes a turn to S., and the back current from the left bank of the river at the bend is thrown into the canal and forms a whirlpool.

The distances by the Saqlāwiyeh Canal from the Tigris to the Euphrates, according to T. C. Maps 86 A, 99, 100, are as follows :

Miles from Tigris at mouth of Kharr Canal	
1	Iron bridge across Kharr Canal.
12	Lake 'Aqarqūf.
17½	Mouth of Saqlāwiyeh.
22½	Shoal.
23	Tomb of Ibrāhim ibn 'Alī.
56½	Kanainiyeh bund.
57	Euphrates.

ROUTE IV F, pp. 100-115

HĪT—ĀNAH

- m. 58½. *Right Bank*.—According to one report the rocks obstructing navigation at this point have been blown up. This is contradicted by other statements.
- m. 65-m. 103. A report of July 1917 stated that a channel 3-4 ft. deep had been buoyed between Hadīseh and Feheimēh.

ROUTE IV G, pp. 114-129

ĀNAH—DEIR EZ-ZOR

- m. 172½-m. 182. *Right Bank*.—The map from which the distance between El-Jedid and Marreh has been taken seems to over-estimate it very considerably. The actual distance appears to be about 2 m., and that from Marreh to Abu Hasan about 1 m.

ROUTE IV H, pp. 128-141

DEIR EZ-ZOR—MESKENEH

- m. 46. *Left Bank*.—The description of the ruined fort belongs to Halebiyeh on the r. bank (m. 47).
- m. 130½. Suriyeh ruins appear to lie below the rapids.

LAND ROUTES

THE TIGRIS VALLEY WITH REGION TO EAST

ROUTE 25 a, pp. 142-167

BAGHDAD—MOSUL

Via SALĀHIYEH, KIRKUK, AND ERBIL

Introduction.—*Delete*: 'with some slight repairs . . . field guns throughout' and *substitute*:

'A good deal of work has been done recently towards the improvement of the road. The Turks have made it passable for guns between Mosul and Qara Tepeh. In December 1917 motor-lorries were reported to be working between Mosul and Altun Köprü, and the road between Altun Köprü and Qara Tepeh is apparently passable for motors, at least in dry weather.

South of the Jebel Hamrīn the surface of the country along the route consists mainly of the alluvial loam of Irak, with sand in places: north of the Hamrīn it is for the most part alluvial clay, with sand and gravel here and there. The ground is therefore liable to become very heavy after rain.

The Great Zāb is now crossed by one or more bridges (see corrections under m. 215, 262 $\frac{1}{4}$ below). The old stone bridge over the Lesser Zāb at Altun Köprü is not passable for wheels, but no information is available as to new bridges on the Lesser Zāb or other stream-beds.'

After 'large torrent-beds between Salāhiyeh and Kirkuk' *add*: 'the streams in which are generally easily fordable, but may be impassable for hours or days after rain'.

After 'in the crossing of the Great Zāb' *add*: 'Between Kirkuk and Erbil the streams are generally dry in summer. Water may often be found in this region in underground channels (*karez*es).

These might require to be bridged as the earthen roofs of the channels sometimes fall in. The roofs are seldom more than 10 ft. thick and probably could not support heavy motor-traffic.'

(ii) THE WESTERN ROUTE TO DELLI 'ABBĀS

Introduction.—*Add*: 'The details given in the itinerary as far as about m. 14 apparently belong to the main route to Dāūdiyeh, which passes the cavalry barracks on the W. side and for 8 or 9 m. runs fairly close to the river, through date-gardens and fields.

Another well-frequented road to Dāūdiyeh branches to r. at the Bab el-Mo'adhdham and passing the barracks on the E. runs due N. skirting the date-plantations on the l. At about $3\frac{1}{2}$ m. a road branches from this route E. by N. to join the Baqūbeh road, and $\frac{3}{4}$ m. farther on another road branches NNE. At 5 m. there is another fork, one branch running N. by W. to join the route detailed in the itinerary about $1\frac{1}{2}$ m. S. of Dāūdiyeh (see below), the other keeping due N. and joining it about $1\frac{3}{4}$ m. beyond that place.'

m. 0-m. 67. The distances given in the itinerary are generally less than those given by the most recent map, from which the following outline of the road is taken:

Miles from
Baghdad

0	Bāb el-Mo'adhdham. The T. L. follows the road.
$\frac{1}{2}$	Cavalry barracks.
$1\frac{3}{4}$	Mo'adhdham to l.
$2\frac{3}{4}$	The road skirts the river for $\frac{1}{2}$ m.
6	Road again close to river for about $1\frac{1}{4}$ m.
$10\frac{1}{2}$	Sandy soil here, easily cut up by traffic; grass and low thorn scrub.
12	Branch of the alternative road to Dāūdiyeh comes in on the r. Heavy going; bushes.
$13\frac{1}{2}$	Dāūdiyeh. A branch of the road runs N. and then NNE., joining the main road after about $5\frac{3}{4}$ m. (see m. $19\frac{1}{4}$ below).
	The latter, accompanied by the T. L., turns ENE.
$15\frac{1}{4}$	The other branch of the alternative road from Baghdad comes in on the r. Direction changes to NNE.
$19\frac{1}{4}$	The alternative road from Dāūdiyeh comes in on the l. (see m. $13\frac{1}{2}$ above). Road here again skirts the river-bank.

Miles from
Baghdad

21	The main road and T. L. keep to r. passing Khān Jedeideh on the E. side. Another road passes through the village and meets the main road after about $1\frac{1}{2}$ m.
21 $\frac{3}{4}$	Khān Jedeideh.
32	Jeizāni et-Talib (? Jeizāni Saghīr).
37	Jedeideh et-Talib (? Zedaideh).
40 $\frac{1}{2}$	Khān Nahrawān.
43	Abu Tawar (? Abu Tamar) to r.
59	Seraijik.
60 $\frac{1}{2}$	Duzdyari.
66 $\frac{1}{2}$	Delli 'Abbās.

m. 67. *Route 2 from Delli 'Abbās.—Delete entry and substitute:*
'Qarfeh is about 16 m. NW. of Delli 'Abbās; the track thither is passable for wheels. A track believed passable for wheels leads from Qarfeh to Dahuk.'

Route 3.—Delete 'About 1 m. N. . . Diyāleh is in flood' and substitute: 'A difficult track which needs improving for pack-animals leads through the Diyāleh defile. About 2 m. NW. of the Diyāleh a good mule-track, which could easily be improved for wheels, crosses the Jebel Hamrīn by the Abu Hajar Pass.

To carry a railway through the Diyāleh defile about 5 m. of construction would be required. The sides of the defile are sometimes eroded into perpendicular bluffs and are broken by small crevasses, often so close together that there would hardly be 100 yds. between the viaducts and bridges. The rock-formation would not cause much trouble in cutting, and the expense of construction would consist mainly in the removal of débris and the bridging of streams.'

m. 73? **ALTERNATIVE ROUTE: DELLI 'ABBĀS—QARA TEPEH**

Via 'AIN LAILAH

Between Delli 'Abbās and Suhāniyeh, near the foot of the Hamrīn hills a track branches from the main route to NNW., leading to a way across the Hamrīn range about 6 or 7 miles NW. of the pass crossed by the main road.

The track at first skirts the foot of the hills crossing broken ground and several wadis. At about 8 m. from the point where it leaves

the main route it turns into the Hamrīn hills and reaches a large walled enclosure. This appears to be 'Ain Lailah.

It is reported that at 'Ain Lailah there is a spring with brackish but drinkable water estimated as sufficient for at least a division. In the stream from this spring are several deep pools. According to Arab information there is a spring of sweet water about 4 m. farther NW. Before reaching 'Ain Lailah some rock-blasting would be necessary (for wheels?), and there are some patches of sand. There are no steep gradients.

From 'Ain Lailah to the valley of the Nahrīn Su there is a road which has a good surface; but levelling would be needed here for motor traffic. At the bottom of the foothills, about 7 m. SW. of Qara Tepeh, the road divides into three branches which cross the Nahrīn Su by the Mohammed Saran ford (4½ m. SW. of Qara Tepeh), the Arab el-Jassim ford (said to be 2 m. ESE. of Mohammed Saran), and the Nahrīn Köprü ford respectively. The river-banks at the fords need ramping. All three branches have a good surface passable for all arms.

m. 76. *Add:*

'The name of the pass above Suhāniyeh crossed by the main road is Sakaltutan. At the steep stretch near the summit transport has to be man-handled or helped with drag-ropes. According to a report of 1917 on the southern side of the Jebel Hamrīn in this neighbourhood, the range consists of parallel ridges, the first (southernmost) being about 300 ft. (?) lower than the second. Between these ridges is a plateau lying about 100 ft. below the crest of the outer ridge, covered with small knolls and scarred with deep ravines. Water is very scarce, being obtainable only in stagnant rain-pools and in the deepest ravines.'

m. 88. The **Nahrīn Köprü** was destroyed by the Turks early in December 1917.

The bed of the Nahrīn Su is described as being (apparently in this neighbourhood) about 30 yds. wide from bank to bank, and containing a stream 12 ft. wide and 1 ft. deep (December?). The bottom is sand and shingle. The banks are generally steep and about 6 ft. high, but there are many places where guns could ford. The water of the stream is drinkable but brackish. The Nahrīn may rise 10 ft. after rain, but sinks rapidly and hardly ever overflows its banks.

Paragraph in small type, line 5.—For 'rangee' read 'ranges'.

m. 94. **Qara Tepeh.** A road runs from here to Qizil Ribāt. See corrections to *Route 28 a*, m. 75.

m. 103-m. 117. The account given in the itinerary differs from the evidence of the most recent maps, from which the following outline is taken :

Miles	
0	Bridge over a stream flowing W. to join the Kufri Su.
1½	Chemén Köprü , masonry bridge over the Kufri Su ; length 125 ft. ; 5 arches. This bridge was destroyed by the Turks early in December 1917, but later in the month its repair was taken in hand.
3	Road forks ; the direct route runs N. The other branch runs NNE., crossing the Kufri Su after 2 m. It recrosses after another 1½ m. opposite Teleshan , and rejoins the direct route 2 m. farther on.
7	The alternative road from m. 3 comes in on the r.
15	Kufri .

m. 117. *Add*: 'Good water appears to be scarce between Kufri and Tüz Khurmatli.

According to prisoner's information obtained in December 1917 the Turks had made a new road from Kufri to Tüz Khurmatli through the hills north of the main route. It was described as good but unmetalled.'

m. 141½, p. 153. *Add*: 'The average fall of the river is about 1 in 50. The difference between h. and l. w. is very marked.'

m. 142½. The oil at Tüz Khurmatli is of fair quality but contains little benzine. The springs are covered by domed roofs.

m. 151. **Quru Chai**. *Add*: 'In flood the channel is about 500 yds. wide, with a depth of 3-4½ ft.'

m. 161¼. **Dahuk Chai**. *After* 'The river is unfordable . . . sinks rapidly' *add*: '2½ m. E. of Dahuk village it emerges from a rocky gorge on to the plain and immediately attains a breadth of 500 yds. It flows here in a winding course without regular banks. Below Dahuk the breadth is over ½ m. The depth in flood is about 8 ft. Bridging would be difficult owing to the breadth of the channel and the violence of the stream in flood, which would make it necessary for the span to be not less than 500-600 yds.'

m. 176. **Qara 'Ali Chai**. *For* 'Adheim River' *read* 'Hasa Su', *and delete, in the next line, 'Hamrîn'.*

Taza Khurmatli. For route to Dür see addition to *Route 26*.

m. 179. *Add:* 'In flood it becomes an important stream and may interrupt communication between the two parts of Kirkuk.'

m. 198½. *4th Paragraph.*—For '**Sanjag**' read '**Sanjaq**'. For the Kirkuk—Köi Sanjaq route see addition to *Route 40*.
For 'impassible' read 'impassable'.
For 'Sanjag' read 'Sanjaq'.

m. 213. **Altun Köprü.** On the stone bridges across the Lesser Zab see corrections to *Gazetteer of Towns*, p. 115 below.

m. 215. *2nd Paragraph.*—This direct route from Altun Köprü to Mosul is probably the one which is said to run *via Ka-sikhân* (12¾ m.) and **Devaja** (23½ m.) to **Quweir** (46 m.), where there is reported to be a boat-bridge over the Great Zab. (In July 1917 there was said to be another bridge 2 hrs. up-stream of Quweir, which was believed to be strong enough to carry guns.)

From Quweir the route runs *via* **Qaraqush** (about 61 m.) to **Mosul** (about 76 m.).

The first 18 m. from Altun Köprü appear to be fit for wheels. Then the road degenerates into a pack-track, and beyond m. 24 it is generally bad, with steep ascents and descents, as far as the Great Zab. Shortly beyond the crossing of the river it improves again and remains fit for wheels as far as Mosul. The Turks seem to have used the road between Erbil and Quweir, and not the direct road between Altun Köprü and Quweir, for guns and wheeled transport.

m. 245¼. A road runs from Erbil *via* **Tel Barur** (5 hrs.) to **Quweir** (9 hrs.). For the rest of the road to Mosul see the preceding note. The Turks have apparently used both the route Mosul—Quweir—Erbil and the route Mosul—Eski Kelek—Erbil as lines of communication.

m. 262¼. A report of October 1917 stated that there was a pontoon-bridge at Eski Kelek. A beginning had been made before the war of building a stone bridge at this point. A Russian report states that this bridge was to be of 20 spans.

m. 269½. *After* 'There are some small villages down-stream' *add:* 'The river broadens very much and breaks into several small channels near its confluence with the Great Zab. Near the confluence is a small flour-mill and a prominent mound about 60 ft. high.'

There are several fords in low water known to the natives.'

- m. 290½. The mound of **Nebi Yūnus** is occupied by a village of Turkomans who are very fanatical. The mosque on the summit of the mound is reputed to contain the bones of the prophet Jonah and is inaccessible to Christians.

ROUTE 25 b, pp. 167-179

BAGHDAD—MOSUL

Via RIGHT BANK OF THE TIGRIS

Total distance.—240-245 m.

Introduction, p. 168.—**Samarra**—**Mosul**. After 'Light carts . . . the return journey' add: 'A good deal of work has been done on the road recently, and it has apparently been used by motor-lorries'.

P. 169. *Delete* 'Fords across the Tigris . . . p. 40'. See on fords, note on pp. 50-2 below.

Add: 'The distances are measured from the upper boat-bridge.'

- m. 3. According to the most recent maps the distance from the boat-bridge to Kazimain is about 4 m.

At about m. 5 the road forks. That to the l. follows the railway, keeping generally to E. of it to Meshāhidiyeh railway station (see note on m. 23 below).

The r.-hand branch is that partly described in the text. It touches the river opposite **Jallateh** (m. 11) and thence proceeds near the river, passing **Beit Nawab** at about m. 13 and **Tel Gosh** at about m. 15, touches the river ½ m. farther on. Here it leaves the river and continues NNE. At m. 17¼ a road passable for carts diverges to r., the main road continuing N. to **Khān Meshāhidiyeh**. The branch to r. runs N. by E. for about 15 m. to Qal'ah Kermea (apparently = Qal'ah Tarmiyeh, noted under m. 18 of the itinerary) on the Tigris, opposite Mansūriyeh, whence it strikes NE. to Sumeikeh.

- m. 18. *Delete* 'near Haseiweh'.

Paragraph in small type.—See above, under m. 3.

- m. 23. **Khān Meshāhidiyeh.** The distance to Khān Meshāhidiyeh, according to the latest information, is about 21 m. Supplies are scanty. The railway station lies about $3\frac{1}{2}$ m. WNW. A road to it branches from the main route about $1\frac{1}{4}$ m. beyond the khan.
- m. 24 $\frac{1}{2}$ -m. 29. At about m. 27 a road branches NE., passing the Khōr Tarmiyeh on the N. and running to Qal'ah Tarmiyeh. Track reported passable for carts joins from the Bābi tract on the r. bank of the Tigris.
- m. 29. The distance to this point is probably about 28 m.
- m. 32-m. 34. The ruins of **Wāneh** may be identical with **Tel Sakhareh** of the latest maps. The tomb of Sheikh Ibrahim is about 1 m. SW. of the point reached at m. 32. The ruins of 'Akbareh lie about $1\frac{1}{4}$ m. ENE. of Tel Sakhareh.
- At about m. 33 $\frac{1}{2}$ the road crosses the railway. A branch continues N. parallel with the railway for $1\frac{3}{4}$ m. to Sumeikeh railway station.
- m. 39. **Sumeikeh.** The distance should probably be given as about 37 $\frac{1}{2}$ m.
- The railway station is about 2 m. SE. by S. from Sumeikeh village. A T. L. appears to run from the village to Sindiye (see *Route III D*, m. 45 $\frac{1}{2}$ and note).
- According to T. C. Map 96 A there are 70 wells of good water at Sumeikeh.
- The Dujeil is dry when the river is low. Its stream in the h. w. season is apparently 6 in.-1 ft. deep and a few feet wide, and reaches Sheikh Ibrahim 2 hrs. S. of Sumeikeh. The road from Sumeikeh described in the itinerary is not marked on T. C. Map 96 A. A road is given running N. across the railway and then making a détour to the E.; after which it turns NE., reaching the railway again at Beled station. (The station lies about 4 $\frac{1}{2}$ m. S. of Beled village.) From there it follows the general line of the railway, mostly on its E. side, to Samarra.
- m. 51. **Beled.** There are several small khans at Beled and a camping-ground close to the village.
- For '**Harbeh** canal' read '**Dujeil** Canal'.
- m. 64. For '**Mouth of Dujeil**' read '**Head of Dujeil**'.
- m. 94. The map gives the distance of Dūr from the road on r. bank as about 2 m. For a route from Dūr to Taza Khurmatli see addition to *Route 26*.
- m. 104. **Tekrit.** There are several small khans here.

- m. 113½. This appears to be the **Wādi Hamra** of one recent map and the **Wādi Kerim** of another.
- m. 119-122. There appears to be a large wadi (? Wādi Hamra) at about m. 121½.
- m. 128. **Khān el-Kharnineh** has been a Turkish supply dépôt. There is said to be a well here of bad water. Drinking-water is brought from the river.
- m. 131. **Shereimiyeh**. *Delete mileage*. Shereimiyeh is at about m. 134. One report states that there is no guard-house here.
- m. 131-m. 155. **Shereimiyeh—Bilalij**. The distance given in the text between Shereimiyeh and Bilalij is probably too short by some miles (four or five?).
At 8 hrs. from Khān el-Kharnineh and 4 hrs. from Bilalij is the Wādi el-Hashish, where the Turks had a marching-post.
- m. 152. *For 'creek' read 'nullah'.*
- m. 155. The spring at Bilalij rises in a pool about 2 ft. wide, and is clean and drinkable. The overflow forms a stagnant pool unfit for drinking.
There is said to be a spring called 'Ain el-Dibis in the hills to N. of the route, about 7 m. SE. of Bilalij.
- m. 168-m. 230. **Qal'ah Sherghat—Mosul**. Aublé's survey gives the distances from Qal'ah Sherghat approximately as follows:

Miles	
0	Qal'ah Sherghat.
9	Jarnaf camping-ground.
26½	Kaiyara.
27¾	Romana camp.
40	Shura.
51½	Hammām 'Ali.
66½	Mosul.

- m. 204. **Shura** lies about 5 m. from the river.
- m. 218¾. According to Aublé's survey Lazzaqeh lies 1¼ m. N. of the road, about 4¼ m. beyond Hammām 'Ali.
- m. 224¾. *After 'commanding' insert 'the river and'.*
Before 'The road now descends . . .' insert 'There is a farm here, with stabling accommodation', and add: 'The going was recently reported to be very bad during the descent but may have been improved.'

NOTE ON FORDS ACROSS THE TIGRIS BETWEEN BELED AND TEKBIT

The following fords were reported in June 1917 to be passable in low water. At the beginning of August 1917 they were still impracticable; it was thought that the Sabiyeh ford (c) would be the first to become passable. Conditions are liable to change more or less from year to year. On the fords described in detail below (a-d) there are no pitfalls; they are not formed by ledges, and they are believed to extend at least 200 yds. up and down-stream of the points indicated:

(a) Qadriyeh Ford. About 25 m. down-stream of Samarra, opposite Biharir ('Baheirdeh' or 'Bihairdah') I. See corrections to *Route III D*, m. 82-m. 82½. The ford is 50 yds. S. of a water-lift (apparently at its r.-bank end).

On June 5, 1917, the channel between the island and the r. bank of the river was out of a man's depth at a point 50 yds. from the bank. The l.-bank channel, which is the main one, was deeper. It was believed that under normal conditions the latter channel might have a maximum depth of 3-3½ ft. early in July, but the ford was not passable at the beginning of August 1917.

The banks (r. bank?) are 10 ft. high with a slope of 1 in 1 and a small beach below.

The ford leads from the r. bank to a small spit directly opposite and thence half-right to El-Shadawiyeh (T. C. Map 92 A). The island marked 'Bihairdah' on T. C. Map (locally known as Biharir at this (the southern) end and Umm Talaib at its northern end) is crossed. In June the current was 1½ m. p. h. in the r.-bank channel, much faster in the l.-bank.

(b) 'Aziz Beled Ford. About 22 m. down-stream of Samarra opposite Tutha I. and about ½ m. above Ba'rurah on the l. bank. See corrections to *Route III D*, m. 85¾. The position of the ford is marked by a group of 3 water-lifts and 3 small-walled gardens. The approach on the r. bank leads through irrigation-cuts and cultivation.

The ford was still impassable at the beginning of August. The l.-bank channel is the deeper.

The banks (r. bank?) are 12 ft. high with slopes of 1 in 1, and 3 or 4 ramps for animals.

The direction of the ford is uncertain, but it is stated that the general rule of going diagonally from spit to spit appeared to hold. There is a r.-bank island called Sinjar Jawaziret and a l.-bank

island called Sheikh Āl Bū Faraj. These may be the islands marked on T. C. Map 92 A as lying respectively in the southern and northern channels past Tutha I.

The ford has a hard bottom consisting partly of sand, partly of pebbles. In June the current was $1\frac{1}{2}$ m. p. h. in the r.-bank channel, faster in the l.-bank.

(c) Sabiyeh Ford. Near Sabiyeh ruins, about 20 m. down-stream of Samarra, apparently opposite the lower end of Darāwish I. See corrections to *Route III D*, m. $87\frac{3}{4}$ –m. 88.

The ford was not practicable at the beginning of August 1917, when there was a maximum depth here of 7 ft. ; but it was believed that it would probably become passable sooner than the other fords in this neighbourhood. It is said to be about girth-high when practicable, the l.-bank channel being the deeper.

The banks (r. bank ?) are about $5\frac{1}{2}$ ft. high and are sloped in places so as to be fit for pack-animals.

The ford leads from the r. bank straight to Jawaziret (Darāwish ?) I., then up the island to a clump of trees, and thence across l.-bank channel towards Imām Sheikh Hasan. There is a good bottom of sand and shingle. The current is moderate.

(d) Jibbāreh Ford. About 15 m. down-stream of Samarra. See corrections to *Route III D*, m. $92\frac{1}{2}$. The position of the ford is marked on the r. bank by two brick pump-houses and some larger buildings. On the l. bank, opposite, is Khān Sawiyeh (Khān Saurah or Khān Mizraqchi ? See corrections to *Route III D*, m. 92–m. $92\frac{1}{2}$).

This ford was not passable at the beginning of August 1917, though it had been expected that it would be girth-high at the end of June.

The banks (r. bank ?) are 15 ft. high, with steep slopes. Between the two pump-houses is a ramp suitable for pack-horses.

The ford starts from a point on the r. bank near a water-lift close to the down-stream pump-house. It leads across a channel likely to dry early in the l. w. season, then down a sand-bank to opposite a water-lift, and thence straight across the main river to Teha I., and from there across a side-channel to the l. bank. The bottom is sand.

(e) Tineh Ford. See corrections to *Route III D*, m. $104\frac{1}{2}$.

(f) Mukeshfeh Ford. About 13 m. above Samarra. See corrections to *Route III E*, m. 14.

(g) Tel el-Mohaijir Ford. About 4 m. above Mukeshfeh. See corrections to *Route III E*, m. $17\frac{1}{2}$.

(h) El-Auja Ford. $3\frac{1}{2}$ m. down-stream of Tekrit. See corrections to *Route III E*, p. 24 above, m. $29\frac{1}{4}$.

(i) El-Omelahieh Ford. 2 m. down-stream of Tekrit. See corrections to *Route III E*, p. 24 above, m. $31\frac{1}{2}$.

NOTE ON THE 'ADHEIM

The lower 'Adheim is dry in summer, the water which would otherwise go to feed it being diverted to irrigation above the Hamrīn hills. At this time water can generally be found below its bed at a depth of 2 ft. The pools which form in the river-bed as it dries are said to be unfit to drink by the end of May.

In high water the 'Adheim is 30–50 yds. wide in the neighbourhood of its mouth and apparently is generally fordable. Thus on March 29, 1917, there was a ford about 6 m. from the Tigris where the river was 40–50 yds. wide, the water being waist-high and the bottom muddy. In the middle of April 1917 the river near its mouth was 30 yds. wide and fordable, but the Turks had a bridge about $1\frac{1}{4}$ m. from its confluence with the Tigris. A depth of 4 ft. has been found at or near the mouth of the 'Adheim in December.

Motor-transport can pass from the 'Adheim mouth up to Banel-i-'Adheim by keeping 2–3 m. E. of the river.

ROUTE 26, p. 179

TEKRIT—KIRKUK

- m. 22. **Inkhilā** (Ain Nukheileh). In November 1917 it was reported that a road was under construction between this place and Fethah 'apparently following the southern slopes of the Jebel Hamrīn'. The distance from 'Inkhilā' to Fethah is perhaps about 25 m.

DŪR—TAZA KHURMATLI

A German report of 1917 gives a route between Dūr on the Tigris, 20 m. above Samarra, and Taza Khurmatli, 12 m. S. of Kirkuk on the Baghdad road (*Route 25 a*, m. 176). This route crosses the Jebel Hamrīn at an unnamed point, and passes by Hayari (unlocated) and Bashiriyeh (25 m. SSW. of Kirkuk) to Taza Khurmatli.

ROUTE 28 a, pp. 182-194

BAGHDAD—KIRMANSHAH

Via KHANIKIN

Introduction, p. 182. *1st Paragraph*, line 4.—After 'in places a quagmire' *add*: 'Between Baghdad and Bāqūbeh the road is only slightly raised, not enough to prevent flooding near Baghdad except in a dry season.'

P. 183. *5th Paragraph*.—*Add*: 'In winter the road beyond Khanikin is liable to be made difficult or impracticable by snow. When clear of snow and mud the route is passable for motors.'

m. 0—m. 9. *Between these mileages insert*:

'm. 6½. Ten wells to r. of road; water 15 ft. below ground.'

m. 9. According to T. C. Map 86 A there is a water-channel at about m. 8¾. This is probably the irrigation-cut mentioned in the text.

m. 11. T. C. Map 86 A makes the distance to Khān el-Bir 11½ m.

m. 31. **Bāqūbeh**. There is said to be a large oil-refinery at Bāqūbeh, with an output of 200 tons (? per month). The loss on refinement is about 10 per cent.

A road passable for wheels runs from Bāqūbeh to Beledrūz via **Jodeideh** (10 m.), where it apparently joins *Route 30* (see corrections to that route).

m. 53. A report of July 1917 stated that the bridge near Jellāli was then broken. The canal was believed to be fordable at that time.

m. 63. The canal mentioned under this mileage seems to be the Harūniyeh, which according to the most recent map is a little over 4 m. from Shahrāban. In 1917 the bridge was said to be of brick and in good repair.

The 'sluggish river' mentioned in the text as being just beyond the canal is probably the Beledrūz Canal, said to be 30 yds. wide by 30-40 ft. deep and crossed by a timber suspension-bridge fit for guns but not for lorries.

[About 2½ m. beyond the Beledrūz Canal a road passable for all arms turns S., running parallel to and generally about 1 m. distant from the canal. **Tel Qubbeh** is passed at 12 m. After **Imām Askar** (about 20 m.) the surface is spongy owing to this country being under rice-cultivation. **Beledrūz** is reached at about 26½ m.]

Water is fairly plentiful along this road even in the driest months. If the Beledrūz Canal should be found dry, water could probably be got by digging in the canal-bed.]

- m. 75. **Qizil Ribāt.** A road is reported to run from Qizil Ribāt to Qara Tepēh (see *Route 25 a*, m. 95). At the Diyāleh crossing on this road the Turks constructed a trestle bridge. On a road from Mandali to Qizil Ribāt see corrections to *Route 28 b*.
- m. 94. *Paragraphs in small type.*—Add: 'There are several oil-springs at Imām Hasan, with an output of 1,000 gals. of crude oil per month. The oil contains a light proportion of sulphur'.

ROUTE 28 b, pp. 194–205

BAGHDAD—KIRMANSHAH

Via MANDALI

- m. 73. **Mandali.** There is a telegraph office at Mandali. Apparently there is also an oil-refinery. The oil is said to be of fair quality. Three stills were reported to be working in the summer of 1917.

About 20 m. NNE. of Mandali there are about 20 oil-springs. In 1917 the output was 500 gals. of crude oil per day, an amount which could be doubled. The specific gravity of the oil is about 0.900. It contains much sulphur and has 8 per cent. of commercial benzines with a fair proportion of heavy petrols. It requires to be tanked immediately on exit from the springs. There are tanks under the springs holding 8,000 gals.

There is probably sufficient water on the spot for a small refinery, which would require to be at the springs in order to retain light products. For exploitation, sulphuric acid washers, agitators, caustic soda tanks, and facilities for preparing the oils for motor works are required.

[The first 20 m. of a road from **Mandali** to **Qizil Ribāt** were reconnoitred in the autumn of 1917. The going was good for motors except at m. 9, where a water-channel crosses the route, and at about m. 17, where the **Āb-i-Neft**

is crossed. Half an hour's ramping would be required to allow motors to pass these points.

At about 9 m. from Mandali, near **Khaizaran**, there is a well to W. of the road, where a plentiful supply of good water could be obtained about 6 in. below the surface. The water in the *Ab-i-Neft* is slightly brackish where the road crosses. Higher up-stream it is sweet. Grazing is good in the winter months.]

ROUTE 29, pp. 205-206

MANDALI—KHANIKIN

Add:

(a) The following account of the route is taken from a report based on account of June 1917 and Arab information of 1915-1917: Total distance 44 m.

Introduction.—The road is passable for all arms, except possibly in the rainy season. Between Kāni Masi and Khanikin it would need some improvement for motors. A Turkish cavalry brigade of 600 sabres with wheeled transport passed over the route in May 1916.

From the middle of January to the end of May water is plentiful, and in the driest months there is believed to be enough water along the route for 3,000 infantry with transport; but the supply, except in the Gangir river at Mandali and the *Álvand* river at Khanikin, is brackish. (The water on the route Jessan—Khanikin *via* Mandali is described generally as resembling Harrogate water, but much stronger, causing no harm or disease but tasting of rotten eggs and fit for troops only in case of absolute necessity; see, however, under m. 18 and m. 26 below.)

There is irrigation from the streams issuing from the Persian hills, and in peace time wheat and barley were exported to Baghdad and ghi was plentiful. The crops from Mandali to Khanikin failed in 1917, by reason, it is believed, of unsettled conditions.

There is good camel-grazing throughout, and grazing for other animals from January to March inclusive.

There is a certain amount of brushwood along the route, and firewood is reported to be obtainable in the hills.

Camels might be purchased (the estimated number obtainable between Bedrah and Khanikin is 5,000).

There is ample space for camping throughout.

Miles from
Mandali

- 0 **Mandali.** General direction to Qal'ah Neft NW. (NNW.?). In the first 9 miles the route passes over flat country with no obstacles for wheels.
- 9 **Makalū** village.
- 17½ The **Āb-i-Neft** is crossed.
- 18 **Qal'ah Neft.** Water plentiful at all seasons, and described as slightly brackish (but see introduction above). Apparently the water comes from the **Ab-i-Neft**; this stream is said to contain sweet water in the upper part of its course. Good camping-ground.
From Qal'ah Neft to Kāni Masi the general direction is N. The road is absolutely flat.
- 26 **Kāni Masi.** Water plentiful at all seasons from a spring described as slightly brackish (but see introduction above). Good camping-ground.
From Kāni Masi to Khanikin the general direction is N. The road winds among the under-features of the **Jebel Baghcheh**, over slightly broken ground passable for light-wheeled traffic and capable of being made fit for motors at the expense of a certain amount of work, till it meets the **Āb-i-Palkana** at m. 38. It then runs parallel to this river, and 2 m. from it, over high ground till it descends to the gardens of Khanikin.
- 44 **Khanikin.**

(b) A Russian report mentions a route *via* the **Neft Dereh** (**Āb-i-Neft**) defile (m. 20), **Kāni Masi** (m. 32), the ravine of **Enichereh** (m. 36), and, a short distance farther on, **Telkan** village. The road is reported fit for wheels except through the **Neft Dereh** defile and over the spur and ravine of **Enichereh**. Total distance 44 m.

ROUTE 30, pp. 206-207

BAGHDAD—BELEDRŪZ

Via **BAHRĪZ***Add :*

Introduction.—The distances given in this route appear to be rather unreliable. The outline of the road from **Bahrīz** given below is taken from T. C. Map 124. Many canals besides those mentioned in the text have to be crossed. At **Jodeideh**, which is apparently situated near the

crossing of the Ibrāhīm canal (m. $7\frac{1}{2}$), a road comes in on the l. from Bāqūbeh (see corrections to *Route 28 a*, m. 31). The bridges over the four branches of the Marut canal crossed in the next 3 m. beyond Jodeideh would require constant repair. Before Beledrūz is entered the canal has to be crossed. It is spanned by two good brick bridges, the southern of which has the better approaches and is the more commonly used. Water is generally plentiful along the road, being obtained from the Marut canal and its branches. If these happened to be dry, water could probably be got by digging in the canal-bed.

Miles

0	Bahrīz.
$2\frac{3}{4}$	Abu Feyyāb $1\frac{1}{2}$ m. to S.
$7\frac{1}{2}$	Cross the Ibrāhīm canal. Jodeideh in this neighbourhood?
8	Cross the Sheikh Tamīm canal.
$9\frac{1}{2}$	Sinniyeh. Cross the Marut canal.
13	Cross the Sisbaneh Kebir canal.
$14\frac{1}{2}$	Shehr Habib 1 m. to S. Road turns NE. along the eastern bank.
$22\frac{1}{2}$	Two bridges at a short distance from each other.
26	Beledrūz.

ROUTE 31, pp. 207–209

BAGHDAD—BĀQŪBEH

Via THE DIYĀLEH BRIDGE, &c.

Introduction.—For ‘the country for 2 m. above the mouth of the Diyāleh’ read ‘the country on the l. bank of the Diyāleh for about 7 m. above its mouth (m. 9–m. 16)’.

m. 0–m. 9. **Baghdad—Diyāleh.** For the road from the Bāb esh-Sharqī to the Diyāleh see Vol. II, *Route 5 e*, m. 103–m. 112.

m. 11. ‘Water-cuts . . . directions (1904).’ According to a report of 1917 the l. bank of the Diyāleh from its mouth to a point about E. of Baghdad (about m. 16 of this route) is mostly cultivated to a depth of $\frac{1}{2}$ m. from the river. The r. bank is here uncultivated.

m. 43–m. 47. **Bahrīz—Bāqūbeh.** According to T. C. Map 124 the distance between Bahrīz and Bāqūbeh is not much over 3 m.

Note. On the navigation of Diyāleh to Bāqūbeh see above, p. 36.

ROUTE 32 a, pp. 209-213

KHANIKIN—SALĀHIYEH (KUFRI).

Introduction.—When the Turks retired from Persia in the spring of 1917 parts of the XIII Corps marched from Khanikin to Kufri via Dekkeh.

m. 12-m. 13½. **Dekkeh—Diyāleh** ferry.

Soane reports that 'in spring there is nearly a mile and a half of morass and streams before the Diyāleh is reached, and the river, the width of which varies according to shifts of course, is swift and strong, and passable only by a raft of timbers on skins'. In 1917 the Diyāleh between Qal'ah Shirwān and the Jebel Hamrīn was fordable in many places from the last week in April to the middle of December. In low water the river breaks up into a number of small channels. Compare *Route 32 b*, under m. 25.

The Turks had bridges across the Diyāleh (i) just down-stream of Qizil Ribāt, and (ii) just down-stream of the Alvand-Diyāleh confluence.

ROUTE 33, pp. 215-220

QASR-I-SHĪRĪN—SALĀHIYEH (KUFRI)

Introduction.—A Russian report gives the following description of the road from Qasr-i-Shīrīn to Kufri: 'Across the Diyāleh river between Djumur [?] and Qal'ah Shirwān [cp. text, under m. 29½] there is no bridge. This was the road taken by portions of the XIII [Turkish] Corps, and therefore this road is apparently fit for wheeled traffic.' No estimate of distance.

Add: ALTERNATIVE ROUTE *via* DEKKEH (56½ m. ?)

Authority:—Soane, 1912 (for road from Qasr-i-Shīrīn to the Diyāleh).

The road from Qasr-i-Shīrīn to the Diyāleh at Dekkeh (one stage) is impracticable for wheels over the Aq Dāgh and near the Diyāleh in spring and winter. There is little but local traffic on it, but it is

well used in the first half of the stage. At Dekkeh it joins *Route 32 a*.

Ample supplies in Ben Kūdra district.

Grazing on the Aq Dāgh till April.

Small wood for fuel in Ben Kūdra and on the Diyāleh.

Miles from
Qasr-i-Shirīn

- | | |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0 | Qasr-i-Shirīn. General direction W. (by S. ?). Road stony on leaving Qasr-i-Shirīn. |
| 3 | Cross the Aq Dāgh. This is apparently the range crossed in the first few miles of <i>Route 33</i> (see text, p. 216, m. 0 and m. 4). According to Soane the road is here quite good for loaded animals, and is steep only for 100 yds. or so at the summit.
Gradual slope on W. side of range. Across broken ground for some distance, and then through Ben Kūdra plain over flat ground to Dekkeh. |
| 25 | Dekkeh near the Diyāleh river. See <i>Route 32 a</i> , m. 12-m. 13½, and corrections. <i>Route 32 a</i> is now followed. |
| 56½? | Salāhiyeh (Kufri). |

ROUTE 34 a, pp. 220-228

SALĀHIYEH (KUFRI)—SULEIMĀNIYEH

Via ZAGIRMEH PASS

Distance.—Delete estimates of distance throughout. The total distance is probably about 70 m.

Soane, in *Report on Sulaimania District* (1910), gives the following approximate estimates :

Miles from
Kufri

- | | |
|----|--------------------|
| 0 | Kufri. |
| 22 | Ibrāhīm Khānji |
| 40 | Gök Tepeh. |
| 46 | Qara Dāgh village. |
| 68 | Suleimāniyeh. |

Soane's estimate of times is as follows :

- | | |
|----------------------------------|--------|
| From Suleimāniyeh to Qara Dāgh | 8 hrs. |
| From Qara Dāgh to Ibrāhīm Khānji | 9 hrs. |
| From Ibrāhīm Khānji to Kufri | 8 hrs. |

A Turkish battalion took 5 days in the winter of 1916-1917 (Dec. 29-Jan. 2) on the march from Suleimāniyeh to Kufri, but was much delayed by heavy rains.

Another Turkish battalion also took 5 days at the same season (Jan. 15-19).

Introduction.—According to Soane (1910), this road is easy (for pack-animal caravans?) except at the two passes above Suleimāniyeh, i. e. the Zagirmeh Pass and the one across the hills between Tamar and the Suleimāniyeh plain (Gilzerda Dāgh; compare text, pp. 227-228). The summary of information given by a prisoner from a Turkish regiment which marched over the route in Jan. 1917 contains the note, 'Direct route, no road.' This may mean that there was only a rough track.

m. 23 $\frac{3}{4}$. **Ibrāhīm Khānji.** Soane describes this place as 'a small village with an inferior water-supply, though the bed of a stream [Aq Su], very considerable in winter, passes by it'. He reports that 'in normal times [i. e. when the tribes are quiet] there is some cultivation and the usual eggs and fruit are obtainable, as well as curds'.

m. 23 $\frac{3}{4}$ —m. 48 $\frac{1}{4}$. **Ibrāhīm Khānji—Gök Tepeh.** According to Soane the distance between these places is about 18 m.

m. 48 $\frac{1}{4}$. **Gök Tepeh.** Halting place for caravans; muleteers throw the loads by a small stream. No khan. 'Eggs are obtainable and a little fruit, according to season, principally water melon' (Soane, 1910).

m. 51—m. 64 $\frac{1}{4}$. **Zagirmeh Pass.** 'This is not, like Baziyan, a complete break, but rather an interruption of the crest of the hill, and presents a long and stony climb' (Soane, describing the pass as approached from Suleimāniyeh. The Baziyan Pass is the one by which the Kirkuk—Suleimāniyeh road crosses this range, the Qara Dāgh. See *Route 37*).

On the E. side of the range is a considerable village called (by Soane) Qara Dāgh, the head-quarters of a mudir. It lies somewhat S. of the road, about 22 m. from Suleimāniyeh. Caravans from Suleimāniyeh often diverged to Qara Dāgh and ended their first stage here instead of at Gök Tepeh.

m. 81 $\frac{3}{4}$. **Khanjiru river.** Also called (by Soane) Cham-i-Bakhan.

ROUTE 34 b, pp. 229-231

SULEIMĀNIYEH—SALĀHIYEH (KUFRI)

Via DĀR

Distance.—The estimates of distance are those given by the authority. They are probably exaggerated. Compare corrections to *Route 34 a*.

ROUTE 35, pp. 232-236

SULEIMĀNIYEH—KIRMANSHAH

Total distance.—This may be somewhat exaggerated in text, which follows *Routes in Persia*. Soane's estimate gives a total of 165 m.

Authorities.—*Add*: 'Soane, *Report on Sulaimania District*, 1910.'

Introduction. First Paragraph.—'This has been reported . . . Turkey in Asia.' The statement quoted here is incorrect. The best and most natural approach from the Central Persian Plateau to Turkey in Asia is the road from Kirmanshah to Baghdad *via* Khanikin (*Route 28 a*).

Add: 'According to a Russian report the road from Suleimāniyeh to Halebjeh is passable for carts'.

Second Paragraph.—'The snow in winter is nowhere very severe.' According to Soane, the Mil-i-Palangān Pass between Pavar and Ruvānsar (m. 97-m. 139) is blocked by snow in the winter months, when a lower road by Juanrūd is taken.

m. 0-m. 25. **Suleimāniyeh—Mohun.**

Soane's estimate of distance for this stage is 20 m. (7 hrs.).

W. O. Map (E. T. A. series, sheet 36) makes the distance about 23 m.

Soane's description of the stage agrees in general with that in the text. The road goes up and down over the spurs of the hills to l., passing a few villages in the folds. The first of these villages, Karga, is a large place. The road has very steep ascents and descents for some miles, taking an almost straight course till it passes Nil Pariz, 'a large village with a little water.' On Soane's map Nil Pariz is placed not quite half-way between Suleimāniyeh and Mohun.

(According to Soane the older road kept the lowest level of the valley, near the river, but fell into disuse owing to Hamawand raids. But the upper road was apparently in use in 1886 and the bottom of the valley (which is described as damp by the authority of 1886) may be heavy going.)

From the top of the last rise before Mohun a wide view is obtained over the Shahrizur plain, and Halebjeh can be seen (to SE.) on high ground under the Kuh-i-Nilabu.

- m. 25. **Mohun.** Soane, Mūān. This is a small village, built on the western face of a small hill, behind some willow-trees. Good spring. In summer (from about late March to November) the inhabitants of the village camp at a spot near a stream about $\frac{1}{2}$ m. to SW. Curds and buttermilk, and sometimes eggs, are obtainable.

In May and October the Jaf Kurds are on the move in this neighbourhood.

- m. 25-m. 45. **Mohun—Halebjeh.**

Soane's estimate of distance on this stage is 17 m. (6 hrs.); W. O. Map makes it about 15 m.

According to Soane the only obstacles on this stage are two considerable streams, the Ao-i-Shahrizur and the Baishan or Ao-i-Mahmud, which are deep in spring.

It is possible that these are the streams mentioned under m. 37 in the text. If so, the road followed in 1886 apparently crosses them near their junction. Soane's map places them nearer Mohun (Mūān) and makes the road cross the Ao-i-Shahrizur at about 3 m. from Mohun and the Baishan about 4 m. farther on. He states that the second of these streams is near the lowest point crossed by the road, which then rises to Halebjeh.

- m. 45. **Halebjeh.** For communications with Qasr-i-Shirīn and Khanikin see Appendix in text.

For road from Halebjeh to Penjevin see note at the end of corrections to this route.

- m. 61. **Tavala** stream. The large village of **Tavala** (Soane, Tavila) lies in this valley, apparently N. of the route described in the text, and about $2\frac{1}{2}$ m. NNW. of Nausud (Turco-Persian Boundary Commission's Map, 1914, Sheet XII). Soane gives Tavala as the end of the first stage from Halebjeh (length estimated at 20 m.). He mentions an alternative stage 'direct' to Nausud.

TAVALA—SENNA *via* PALANGĀN

Soane, 1910.

A mule-track, difficult for a great part of the way. It is said that this route is followed by the annual Tabriz caravan from Suleimāniyeh.

Miles from
Tavala

0	Tavala. The route goes over the spurs of the Avrūmān Dāgh and descends to the Sirvan , which it crosses. It then rounds the foot of the Avrūmān's 'continuation hill' on the l. bank of the river (apparently passing to the north side of this height). It crosses the Gawaru by a ford and ascends a hill-side to Palangān.
24 ?	Palangān. The stage to this place from Tavala is reckoned at 10 hrs. owing to the difficulty of the way. Palangān is a decayed village, but the country round is fertile, and villages and gardens are passed on the road. Water is plentiful. From Palangān the hill is crossed, and the Ohang stream is followed, past Hang. Part of the road from Palangān to Senna is very difficult going through high mountains.
60 ?	Senna.

m. 97. **Pavar.** 'There are here a number of fine gardens, and supplies are plentiful and cheap' (Soane).

m. 97—m. 139. **Pavar—Ruvānsar.**

Distances in text from *Routes in Persia*. Soane estimates the distance from Pavar to Ruvānsar at 29 m. (12 hrs.). This estimate seems to agree better with maps than the mileage given in the text.

PAVAR—RUVĀNSAR *via* JUANRŪD

Soane, 1910. *Routes in Persia*, vol. ii, Route 76 (1897).

This is the lower road referred to in the text (2 lines from bottom of p. 224). It is less direct than the road by the Mil-i-Palangān, but is open in winter, when that pass is closed. It is reported passable for wheels from Juanrūd to Ruvānsar and may be so throughout.

Miles from
Pavar

0	Pavar. Road to Juanrūd lies in a plain between high mountains.
25 ?	Juanrūd. Soane gives the distance between Pavar and Juanrūd as 25 m. (9 hrs.) in one place and as 20 m. in another (p. 17 and p. 57 of <i>Report on Sulaimania District</i>).

Miles from Pavar	
	Juanrūd is a small village of about 40 houses lying in a valley between low hills, with higher ranges beyond. Water from a stream; clumps and plantations of trees; good grazing. When the place had not been recently raided (as in 1897) there were good crops.
	From Juanrūd to Ruvānsar the general direction is ESE. In this stage the road is good and passable for all arms. It runs over undulating ground (chains of hillocks and low hills) for the first 10 m., and then over a level plain. High hills are visible in the distance. Water plentiful at frequent intervals <i>en route</i> and grazing good. Many trees in a valley at m. 3 and trees and scrub on the higher hills. For details of villages passed see <i>Routes in Persia</i> .
8½	Hereabouts low hills on l. separate this route from 'the Kirmanshah-Halebjeḥ road' (i.e. the route given in text).
10½	Sadikābād village, at the edge of the plain, below the last line of hillocks crossed by the road.
	Here the western route from Ruvānsar to Kirmanshah is struck (see under m. 139 in text).
18½	Ruvānsar.

m. 139. **Ruvānsar.** *Add:* 'Water plentiful; grazing good; a little firewood.'

P. 236. *Add the following route, which connects Route 35 with Route 36 a:*

HALEBJEH—PENJEVIN (40 m. ?)

Soane, 1910.

A cross-country route not much used except by local traffic. The route is easy to Zangisar, and difficult beyond that place.

Miles from Haleb- jeḥ	
0	Halebjeḥ. The route follows the Suleimāniyeh road for some miles across the Shahrizur plain. It branches off from this road to make for the northern corner of the plain.
25?	Zangisar, at extreme northern end of the plain, 'at a pass' (8 hrs. from Halebjeḥ). From Zangisar the road is bad, stony, and steep, rising from the level of Shahrizur to that of the pass above Penjevin, 'a good 2,000 feet at least.'
40?	Penjevin, reckoned at 7 hrs. from Zangisar owing to difficulties of the road. Here <i>Route 36 a</i> is struck. See also <i>Routes 36 b</i> and <i>c</i> .

ROUTES 36 a, b, c, pp. 236-241

Add the following routes :

SULEIMĀNIYEH—BANAH

From Suleimāniyeh to Banah there are a number of routes which cannot be identified on W. O. Map, E. T. A. series, sheet 36.

The following is the information available :

(a) *Via* 'CHAARTAI' and SHIVEKAIL (about 64 m.)

Authority :—Russian Information (from a report printed in 1909).

Road fit for pack-animals.

Versts from Sulei- māniyeh	Miles from Sulei- māniyeh	
0	0	Suleimāniyeh.
30	19 $\frac{7}{8}$	'Chaartai'.
60	39 $\frac{3}{4}$	'Shivekel' (Shivekail on W. O. Map).
78	51 $\frac{3}{4}$	'Baleke' (Bilaki on W. O. Map?).
96	63 $\frac{3}{4}$	Banah.

(b) *Via* 'SYURELA' and 'TABAKAL' (about 75 m.)

Authority :—Russian Information (from a report of 1901).

This route as a whole is fit for pack-transport. As far as 'Syurela' (m. 17 $\frac{1}{4}$)—i. e. while it follows the Penjevin road—it is reported to be fit for native carts (*arabas*). From 'Syurela' to 'Armirda' (m. 17 $\frac{1}{4}$ —m. 59 $\frac{3}{4}$) it is suitable partly for native carts, partly for pack-animals. From 'Armirda' to 'Tabakal' it is fit for native carts. From 'Tabakal' to Banah (m. 63 $\frac{3}{4}$ —m. 75) it is a pack-road.

Versts from Sulei- māniyeh	Miles from Sulei- māniyeh	
0	0	Suleimāniyeh. Follow the Penjevin road <i>via</i> Nodé (Naudeh). See corrections to <i>Route</i> 36 b.
19	12 $\frac{1}{2}$	'Nodé' (Naudeh).
20	13 $\frac{1}{4}$	'Chichinyan' (Chingina?)
26	17 $\frac{1}{4}$	'Syurela'. Here the road diverges from the Penjevin road.

Versts from Sulei- māniyeh	Miles from Sulei- māniyeh	
36	23 $\frac{7}{8}$	'Mabra'.
60	39 $\frac{3}{4}$	'Golé'.
64	42 $\frac{1}{2}$	'Meshar'.
?	?	'Seran'.
80	53	'Pelkan'.
90	59 $\frac{3}{4}$	'Armirda' or 'Armoida'.
96	63 $\frac{3}{4}$	'Tabakal' (Tavakal, WSW. of Banah on W. O. Map?).
100	66 $\frac{1}{4}$	'Nizer'.
113	75	Banah.

(c) *Via WĀDIĀBĀD and QIZILJEH*

German light artillery detachment (machine guns and Hotchkiss), 1916.

(i) *Suleimāniyeh—Banah*

End of October. Pack-transport only.

Hours from Sulei- māniyeh	
0	Suleimāniyeh.
8	Wadiābād.
15	Qiziljeh.
27 $\frac{1}{2}$	Banah. (Two marches from Qiziljeh to Banah? Apparently a small party did a double march on this stretch.)

(ii) *Banah—Suleimāniyeh*

December 1916. Pack-transport only.

1st day. To 'Frontier River' (?). Camp on river.

2nd day. To watering-place beyond Qiziljeh pass. Camp.

3rd day. To Wadiābād. Camp.

4th day. To Suleimāniyeh.

(d) Two Turkish battalions, which marched from Banah to Suleimāniyeh in December 1916 and January 1917 respectively, took 3 days each.

(e) A Russian report gives the total distance between Suleimāniyeh and Banah as 68 versts (45 m.). The distance in a direct line, measured on W. O. Map (E. T. A., sheet 36), is 38 m.

(f) On a route *via* Bistan see *Route 36 c* under m. 14 (text).

ROUTE 36 a, pp. 236-239

SULEIMĀNIYEH—SENNA

Via PENJEVIN

Total Distance.—By Russian report 204 versts (about 136 m.). By Soane's estimates, about 113 m.

Authorities.—*Add:* 'Soane, Report on Sulaimania District, 1910. Russian Reports.'

Introduction. 1st Paragraph.—'In parts this road . . . for all arms.' A Russian report mentions a route from Banah to Suleimāniyeh *via* Penjevin, which is fit for pack-animals as far as Penjevin, and 'further on' (i. e. apparently between Penjevin and Suleimāniyeh) for native carts (*arabas*). From another Russian report it appears that there is a route from Suleimāniyeh to Penjevin *via* Nodé (Naudeh), Chichinyan (Chingina ?), and Syurela, which at least as far as Syurela (m. 17 $\frac{1}{4}$) is fit for native carts. A third Russian report mentions a route from Banah to Suleimāniyeh *via* Penjevin as fit for two-wheeled transport. See further, corrections to *Route 36 b*.

5th Paragraph.—For Soane's route from Suleimāniyeh to Penjevin, which may follow more or less the line taken by *Route 36 b*, see corrections to that route.

m. 8—m. 12 $\frac{1}{2}$. [In the Harrik Chai valley.] 'Naudeh and Chingina and several villages in sight further off' (*Routes in Persia*). See further corrections to *Route 36 b*.

m. 39. *2nd Paragraph.*—'Track emerges . . . hills on the r.' *Add:* 'The Bimansu river runs parallel with the road about 1 m. to l.'

m. 66. **Qal'ah Merivan.**

Add: 'For route from here to Pavar, on the Suleimāniyeh—Kirmanshah road, see *Route 35*, under m. 97 (in text).'

m. 66—m. 87. **Qal'ah Merivan—Sheikh 'Attār.**

Add: 'Between these places the chief obstacles are the Gerdilan stream (about m. 73) and the Garrān Pass (about m. 81 according to *Routes in Persia*, or about 4 m. from Sheikh 'Attār according to Soane). In 1882 the Gerdilan was crossed by a dilapidated brick bridge of 8 arches: see introduction to route (text). The ascent to the Garrān Pass from the W. is steep and arduous; the descent on the E. has an easier gradient.'

m. 87-m. 144. **Sheikh 'Attār—Senna.**

Distances in text from *Routes in Persia*, vol. ii, no. 85.

Soane makes this distance only about 40 m.; i.e. from Sheikh 'Attār to Duvīzeh, 28 m.; from Duvīzeh to Senna, 12 m. (4 hrs.).

The distance given in the text between Sheikh 'Attār and Duvīzeh (42 m.) may be due to an over-estimate caused by slow going on the steep hills beyond Barudar.

The distance between Duvīzeh and Senna is estimated at 11 m. in *Routes in Persia*, vol. ii, no. 86 a.

ROUTE 36 b, pp. 239-240

SULEIMĀNIYEH—PENJEVIN

Via HARMALEH

Introduction.—Add :

'(a) Soane's Route.

The route from Suleimāniyeh to Penjevin described by Soane (*Report on Sulaimania District*, 1910) seems to follow more or less the same line as Route 36 b, though it is impossible to say exactly how far it differs from, or is identical with, the route described in the text.

Both Route 36 b and Soane's route make less of a détour to N. than Route 36 a. (According to Soane there is no passage for caravans leading direct from Suleimāniyeh to Penjevin.)

Soane's route is as follows :

Total distance 33 m. in two stages. The end of the first caravan-stage is variable. In the months March-July, when grazing is obtainable, caravans often halt at the foot of the last pass before Penjevin. At other times a break is made near an encampment or village.

From the ascent of the Azmir range NE. of Suleimāniyeh to the point where the route strikes the Bimānsū valley the road was difficult in 1910, being described by Soane as 'one of the severest near Suleimāniyeh'. But see (b) below. Water from springs.

The road leaves the NE. end of Suleimāniyeh in a general NE. direction. It passes through Karga and ascends steeply to cross the neck in the hills above that village. It then goes up and down passing 'the ravines at the head of the Azmir mountain system'. The road is stony and difficult. There are a few villages on the r. depending for their water-supply on the drainage from

the spurs. (According to Soane's map his route passes through Changaina, which is apparently Chingina of *Routes of Persia*. See corrections to *Route 36 a*, m. 8—m. 12 $\frac{1}{2}$, and (b) below.) About 12 m. from Penjevin there is a neck, and a stiff ascent and descent leading to the Ao-i-Penjevin (i. e. apparently the Bimānsū; compare *Route 36 a*). From the foot of the descent the road runs along the bank of the river, and going is easy.

(b) According to Russian information of 1901 there is a road to Penjevin passing by Nodé (Naudeh) at m. 12 $\frac{2}{3}$, Chichinyan (Chingina, Changaina?) at m. 13 $\frac{1}{4}$, and Syurela at m. 17 $\frac{1}{4}$, where a road to Banah takes off. At least as far as Syurela this is passable for native carts. It is possible that this route is the same as Soane's, but in that case the Russian account appears to represent it as easier than does Soane's description. See further, corrections to *Route 36 a*, introduction, 1st paragraph.

m. 10. **Naudeh.** According to Russian report this place is at m. 12 $\frac{2}{3}$. (See above.)

ROUTE 36 c, pp. 240–241

PENJEVIN—BANAH

m. 2. [Ford on the **Bimānsū**.] According to Soane the fords on the stage Penjevin—Serambal are easy.

m. 21. **Serambal.** The water here is reported to be good (Soane, 1910).

ROUTE 37, pp. 241–246

KIRKUK—SULEIMĀNIYEH

Introduction.—Add:

(a) *Condition of the road.*

Before the war *arabas* could apparently go with difficulty from Kirkuk to Suleimāniyeh, though they may not have followed the ordinary road used by pack-caravans. The worst places on this road seem to have been (i) in the first 15 miles from Kirkuk, (ii) at the pass over the range on the E. side of the Baziyan valley. Compare F and G below and C in text.

From 1914 to the autumn of 1917 it would appear that pack-transport was used on this route. Thus the German detachment which marched from Mosul to Suleimāniyeh in 1916, having used four-horse vehicles for its transport as far as Kirkuk, employed mule-transport from Kirkuk to Suleimāniyeh.

It was reported in 1917 that the road from Kirkuk to Suleimāniyeh was expected to be made fit for wheels by about the end of October. In May 1918 it was reported passable for wheels.

The Baziyan defile is only just wide enough for two (mule?) caravans to pass.

The Khanjiru or Bakhān, if unbridged, may be a serious obstacle in spring and until May.

(b) *Water*. (Compare p. 242 in text, 2nd paragraph.)

It appears that on the route described by Soane (F below) water is scarce between Kirkuk and Chemchemal, is obtainable in the Baziyan valley, and is moderately plentiful in the Suleimāniyeh plain.

(c) *Villages*.

According to Soane (1910) the only villages on the road between Chemchemal and Suleimāniyeh are Baba Merda and a small village near the Khanjiru (Bakhān) stream; and these are deserted from early April to November, the inhabitants moving away to pasture their flocks. Encampments of Hamawand are to be found on both sides of the road in the Baziyan valley, or in the plain W. of Baba Merda, at certain seasons of the year, and particularly in spring and early summer.

Hony marks a number of places on or near this part of the road (see additions to D below). But it is uncertain whether all of these are permanent villages. There is the same uncertainty with regard to the localities mentioned in the Russian report (G below).

(A), pp. 242-243.

m. 41. *For Deir Gezin read Dergazin.*

m. 50. 'The road crosses the hills by an easy pass.' If this is the pass in C (of text), m. 50 $\frac{1}{2}$, and in Soane and the Russian report (F and G below), it can hardly be called easy. There is no reference in the other authorities to any other pass over these hills but the one which they describe.

(C), pp. 243-245.

- m. 24. *For 'Lummocky' read 'hummocky'.*
 m. 38. **Jebel Khansireh.** Called by Soane the **Qara Dāgh.**
 m. 40. **Tāsluji Tepeh.** On Hony's map the range E. of the Baziyan valley is called Tokma Dāgh to N. of the pass crossed by the road, and Tāsluji Dāgh to S. of that pass.

(D), pp. 245-246.

Add : CHEMCHEMAL—SULEIMĀNIYEH*Authority :—*Hony, Corrections to W. O. Map, sheets 35, 36.Miles from
Kirkuk

- 32 **Chemchemical.** Track turns NE. to Baziyan Pass, running parallel with, and at some distance to E. of, the T. L. Between Chemchemical and Gurga Hony marks 4 stream-beds crossed by the road. The first of these is apparently outside Chemchemical, the others about m. $32\frac{1}{2}$, $33\frac{1}{4}$, and $34\frac{1}{4}$ m. respectively.
- 35 **Gurga** is passed to l. of track.
- 40 A stream-bed is crossed.
- 41 A stream-bed is crossed. Tekkeh to r.
- 43 Baziyan Pass.
- 44 Track passes from S. to N. of T. L. **Sheitan** about 1 m. to N. (Compare H below.)
- $44\frac{3}{4}$ Track crosses stream-bed.
- 45 **Dergazin** about 1 m. to S. Track takes a general direction between ESE. and SE. to m. $53\frac{1}{2}$.
- $45\frac{1}{2}$ Gopal Tepeh to l. After it is passed, the stream-bed crossed at m. $44\frac{3}{4}$ is crossed again.
- $46\frac{3}{4}$ A stream-bed is crossed.
- $49\frac{1}{4}$ A stream-bed is crossed.
- $53\frac{1}{2}$ Track turns NE. towards pass in hills.
- $55\frac{1}{2}$ Top of pass over hills. This pass lies between the Tokma Dāgh to N. and the Tāsluji Dāgh to S. In the descent from the pass the track strikes and follows the r. bank of a stream-bed which it crosses about m. 57. For streams in the plain between this point and Suleimāniyeh see below.

Miles from
Kirkuk

- 57 **Kenakowa** about 1 m. to N. Track from this point to Suleimāniyeh runs in a general direction somewhat S. of E. by S. (about 108°). T. L. to S. of road.
- 59½ Track crosses stream. **Kelespi** to SSE.
- 62½ **Baba Merda.** Compare F and G below.
- 63¾ **Baba Geldi.**
- 64½ **Kosta** to r. of track.
- 66½ Stream, apparently the Khanjiru. **Keliasan** to r. near W. bank of stream.
- 69 **Abrah.**
- 71½ **Suleimāniyeh.**

Add :

(F)

Authority :—Soane, Report on Sulaimania District, 1910.

Between Kirkuk and Chemchemal this road seems to follow more or less the course taken by Route C in text.

Miles from
Kirkuk

- 0 **Kirkuk.** The road mounts steadily till it reaches the ranges above Gachi (the Gach Dāgh, apparently the Jebel Mēkrān of C). Here it winds in and out among mounds and descends on the other side to Chemchemal. The road to Chemchemal is described as 'easy but tedious'. In the first 15 m. from Kirkuk it crosses stone ridges 'which form a series of steps on which the plain rises'. These ridges 'worn into deep holes by the animals or broken in layers' require very careful negotiation and seriously hinder progress. The time taken by caravans from Kirkuk to Chemchemal is 'quite 12 and usually 14 hrs.'. There is a stream at Kani Tal (according to Soane's map at about $\frac{1}{3}$ of the way to Chemchemal), but the water is bad. Water is also found on the W. face of 'the range' (i. e. apparently the Gach Dāgh), but in no great quantity.
- 30 **Chemchemal.** From here the track crosses the Chemchemal plain, which consists of a confused mass of hummocks and low hills, all of about the same height, and therefore presenting at a distance the appearance of a flat surface. From above Chemchemal the Baziyan Pass is conspicuous; it is a V-shaped break in the wall of the Qara Dāgh range. There is a considerable ascent to the base of the break, which is just wide enough for two

Miles from
Kirkuk

43

caravans to pass. The road turns SE. from the pass and crosses the Baziyan valley.

Halting-place for caravans by a stream at the eastern end of the **Baziyan** defile. No habitations, but some cultivation of wheat and beans 'belonging to the village in the valley'. (This locality would appear to be in the neighbourhood of Sheitan.) It is also stated that there is water on the road 3 m. E. of the pass.

From the pass the road turns SE. and crosses the Baziyan valley. Hamawand encampments near the road, especially in spring and early summer.

The road crosses the range on the NE. side of the valley by the pass of Baba Merda. This pass is only a way over the top of the range, which is here slightly broken. The ascent and descent are extremely stony and troublesome to mules and horses. From the summit the range E. of Suleimāniyeh is visible, and the position of Suleimāniyeh is indicated by a white streak on the side of that range—the road from Suleimāniyeh to Penjevin.

From the pass the road, flat and stoneless, leads across a plain, where in spring and early summer Hamawand encampments may be found, to Baba Merda village, where there is good water. From here to Suleimāniyeh undulating country (known as Surchina, or Red Hillocks) is crossed.

From the foot of the pass to Suleimāniyeh the only obstacles are two streams, one before Baba Merda, which in spring is girth-high, and the other the Bakhān (or Khanjiru), which is deep and swift in May and has a bad approach from the W. The ford across the Khanjiru is below the ruined bridge in spring and above it in summer and autumn.

[Hony shows the road as crossing 4 streams between the pass and Suleimāniyeh: (a) at 3 m. WNW. of Baba Merda and about 12 m. from Suleimāniyeh; (b) at Baba Merda (the village being placed on the r. (W.) bank of this stream); (c) at about 3 m. ESE. of Baba Merda and about 6 m. from Suleimāniyeh; (d) at about 4 m. ESE. of Baba Merda and about 5 m. from Suleimāniyeh; this stream is apparently the Khanjiru or Bakhān.]

71

Suleimāniyeh.

(G)

Authority :—Russian Information from an authority of 1901.

The following is an analysis of the condition of the route (compare corrections to introduction above) :

(a) To verst $22\frac{1}{2}$ (m. 15) it is 'partly wheel and partly *araba*' ; i. e. it is partly a carriage-road and partly is fit for native carts.

(b) At verst $22\frac{1}{2}$ (m. 15) it is a pack-road.

(c) From verst $23\frac{1}{2}$ (m. $15\frac{1}{2}$ – $15\frac{3}{4}$) to Cholmek (verst $57\frac{1}{2}$, m. $38\frac{1}{8}$) it is 'partly wheel and partly *araba*', needing to be cleared of rocks in places. (This stretch apparently extends to the W. end of the pass across the range bounding the Baziyan valley on the E. See itinerary below.)

(d) From Cholmek to verst $62\frac{1}{2}$ (m. $41\frac{1}{2}$) it is a pack-road. (This stretch apparently covers the pass over the hills E. of the Baziyan Pass.)

(e) From verst $62\frac{1}{2}$ (m. $41\frac{1}{2}$) to Allahi (verst $68\frac{1}{2}$, m. $45\frac{1}{2}$) it is a wheel-road.

(f) From Allahi to verst $76\frac{1}{2}$ (m. $50\frac{3}{4}$), i. e. to about half-way between Allahi and Baba Merda, 'it is *araba* and difficult, as it is wet and rocky'.

(g) From verst $76\frac{1}{2}$ (m. $50\frac{3}{4}$) to Suleimāniyeh it is a good wheel-road.

Summary :

15 m. Partly *araba*, partly wheel.

$\frac{2}{3}$ m. Pack.

$22\frac{1}{2}$ m. Partly *araba*, partly wheel.

$3\frac{1}{2}$ m. Pack.

4 m. Wheel.

$5\frac{1}{4}$ m. *Araba*.

$15\frac{1}{2}$ m. Wheel.

Versts	Miles	
0	0	Kirkuk. The distance given in this report between Kirkuk and 'Chamchaman' (Chemchemical) is almost certainly some miles too short. Compare other reports.
$6\frac{1}{2}$	$4\frac{1}{4}$	Ashagi Chimen. (On W.O. Map, sheet 35, Chimen is marked at about m. 6.)
$11\frac{1}{2}$	$7\frac{3}{4}$	Yuqari Chimen. (On W.O. Map, sheet 35, Kuchuk Chimen is marked at about m. 11.)

Versts	Miles	
17 $\frac{1}{2}$	11 $\frac{1}{2}$	Qara Injor. (Compare H below.)
27 $\frac{1}{2}$	18 $\frac{1}{4}$	Ziyāret Baba Halhul.
35 $\frac{1}{2}$	23 $\frac{1}{2}$ (?)	'Chamchaman' (Chemchemical).
49 $\frac{1}{2}$	32 $\frac{3}{4}$	Baziyan Pass.
52 $\frac{1}{2}$	34 $\frac{3}{4}$	Dergazin.
54 $\frac{1}{2}$	35 $\frac{1}{4}$	Kani Bincy.
57 $\frac{1}{2}$	38 $\frac{1}{8}$	Cholmek. (Apparently near the W. end of the pass on the E. side of the Baziyan valley.)
60 $\frac{1}{2}$	40 $\frac{1}{8}$	Morlka.
64 $\frac{1}{2}$	42 $\frac{3}{4}$	Haldan.
67 $\frac{1}{2}$	44 $\frac{3}{4}$	Begajan.
68 $\frac{1}{2}$	45 $\frac{1}{2}$	Allahi.
83 $\frac{1}{2}$	55 $\frac{1}{4}$	Baba Merda.
85 $\frac{1}{2}$	56 $\frac{1}{2}$	Baba Gelda.
91 $\frac{1}{2}$	60 $\frac{3}{4}$	Ablag. (Hony marks 'Abrakh' 2 $\frac{1}{2}$ m. from Sulei- māniyeh.)
98 $\frac{1}{2}$	65 $\frac{1}{4}$	Suleimāniyeh.

(H)

Authority :—Marches of German artillery (M. G. and Hotchkiss) detachment.

(a) Kirkuk—Suleimāniyeh.

End of August 1916. Mule-transport.

Hours from
Kirkuk

0	Kirkuk.
4	Qara Injir (Qara Injor).
9	Chemchemical. Thence in 3 marches, <i>via</i> Kani Sheitan (at E. end of Baziyan Pass ; also called Tainal), to
20	Suleimāniyeh.

(b) Suleimāniyeh—Kirkuk.

End of December 1916.

1st day. From Suleimāniyeh to unnamed village. Camp.

2nd day. To Kani Sheitan. Camp. Horses in stables.

3rd day. To Chemchemical. (Troops lost the way, and took 8 hrs.
on this march.) Camp, no firewood.

4th day. To Qara Injir, 5 hrs. Good billets.

5th day. To Kirkuk, 5 $\frac{1}{2}$ hrs.

(I)

Authority :—Russian Information.

From a Turkish source (a plan of roads with short descriptions, compiled apparently in 1914 before the war) the following description of the Kirkuk—Suleimāniyeh route is given :

Distance, 123 kilometres (or versts ?), $76\frac{1}{2}$ m. (or 82 m. ?). Before the war in 1914 the road was in bad condition, but was nevertheless fit for *araba* (native cart) traffic.

(J)

ALTERNATIVE ROUTE TO BAZIYAN PASS

Authority :—Soane, *Report on Sulaimania District*, 1910.

This route diverges from the road described by Soane (see H above) at Kani Tal, and heads about N.E. to Ibrāhīm Agha, where it apparently turns E., passes by Qal'ah-i-Khwarawa, and leaving Chemchemical some miles to S. runs direct to the Baziyan Pass.

ROUTE 38, pp. 247–251

SULEIMĀNIYEH—RANIYEH

m. 84–m. $75\frac{1}{2}$.

SURDASH—RANIYEH

ALTERNATIVE ROUTES *via* MARGA

Authority :—Soane, *Report on Sulaimania District*, 1910.

[The route in the text leaves Marga about 10 m. to E. on the other side of the Lesser Zab.]

Miles from
Sulei-
māniyeh

34

Surdash.

(a) Western road to Marga *via* Dukhan, about 27 m. This road crosses the Lesser Zab at Dukhan (see m. 47–m. $47\frac{1}{2}$ in text), and then turns N.E., and recrosses the river above its junction with the Qara Cholan. Thence it leads straight across the fertile and well-cultivated Marga plain.

Miles from
Sulei-
māniyeh

(b) Eastern road to Marga, about 24 m. This road turns the E. end of the range which lies between Surdash and the Qara Cholan, and crosses that river a few miles from Surdash.

61, or
58 } **Marga.** The centre of a fertile district. Compare m. 57 $\frac{3}{4}$ in text. From here the route lies over the plain. It fords the Lesser Zāb under the Kūh-i-Marga.

Soane gives the distance between Marga and Raniyeh in one place as 21 m., in another as 18 m. (about 7 hrs.).

79, or
76, or
82 } **Raniyeh.**

ROUTE 39, pp. 251, 252

KÖI SANJAQ—SULEIMĀNIYEH

Add:

KÖI SANJAQ—MARGA

Authority :—Soane, *Report on Sulaimania District*, 1910.

[For Marga see corrections to *Route 38*.]

The ordinary route from Kōi Sanjaq to Marga follows the track to Dukhan (see under m. 9 in text), and thence follows the western road from Surdash to Marga (see corrections to *Route 38*). Distance 'about 40 miles' (perhaps somewhat shorter, about 34 or 35 m.).

A direct route from Kōi Sanjaq to Marga leads over the hills E. of Kōi Sanjaq (perhaps by the pass which carries the Kōi Sanjaq—Raniyeh road, for which see *Route 40*, m. 46 and following). Distance 'about 20 miles' (perhaps somewhat longer, about 24 or 25 m.).

ROUTE 40, pp. 253–257

ALTUN KÖPRÜ--RANIYEH

Authorities.—Add: Russian Information (from reports of 1909 and 1911–1912).

Introduction.—*Condition of road.*

(a) From Altun Köprü to Kōi Sanjaq, fit for wheeled transport (Russian report printed in 1909).

(b) From Kōi Sanjaq to 'Hizan Su' (Khudrān ? see below), a path fit for pack-animals (Russian report, 1911-1912).

(c) From 'Hizan Su' to Raniyeh, fit for native carts (*arabas*), except for about 1 verst ($\frac{2}{3}$ m.) across a spur 5 versts ($3\frac{1}{4}$ - $3\frac{1}{2}$ m.) from Raniyeh (Russian report, 1911-1912).

m. 0-m. 46. **Altun Köprü—Kōi Sanjaq.**

Distance given by Russian report (1909) is 39 versts (26 m.).

This seems impossible. By the W.O. Map (E.T.A., sheets 35, 33) the distance in a direct line (not by Taktak) is about 36 m.

The figure 39 versts may be an error for 59 versts (39 m.) or for 69 versts ($45\frac{1}{2}$ m.).

m. 46-m. $66\frac{1}{2}$. **Kōi Sanjaq—Raniyeh.**

The itinerary in the Russian report (1911-1912) is as follows:

Versts from Kōi Sanjaq	Miles from Kōi Sanjaq	
0	0	Kōi Sanjaq. Pack-road to Hizan Su.
19	$12\frac{1}{2}$	Hizan Su (possibly the Khudrān; compare m. 55 in text). Cart-road from here except at m. $22\frac{1}{2}$.
26	$17\frac{1}{4}$	Gyulek (Gulek) village.
34	$22\frac{1}{2}$	Cross spur, where the road is not fit for carts.
39	26	Raniyeh.

It is doubtful what line this route takes between 'Gyulek' and Raniyeh. Authority in *Mil. Rep. on E.T.A.*, vol. iii, Route 113, took 1 hr. 28 min. between passing Gulek (on his left) and reaching Raniyeh. Possibly the Russian route makes a détour in the direction of Derbend.

Addendum to Route 40 :

KIRKUK—Kōi SANJAQ (50 m.)

Authorities :—Russian Information (from a report of 1911-1912) ; Soane, *Report on Sulaimania District*, 1910.

According to the Russian report this route is a pack-road. Soane gives the distance as about 50 m. (about 30 m. to the ford over the Lesser Zāb, which is impassable in winter, and about 20 m. thence to Kōi Sanjaq).

For a few further details see *Route 25 a*, under m. $198\frac{1}{2}$ (in text). But it is doubtful whether the road to Kōi Sanjaq actually takes off from the Kirkuk—Altun Köprü road at the point indicated in

Route 25 a. Soane says that from Kirkuk 'the road to Altun Köprü is followed till out of the hills, and then a course NNE. is taken across the undulating plain' to the Zab ford. The Altun Köprü road in question may be one rounding the E. end of the Jebel Gurgur, as marked on W.O. Map, E.T.A., sheet 35.

ROUTE 41, pp. 257-261

RANIYEH—BANAH

Total distance.—The total distance of the route is doubtful. It may perhaps be about 80 m. For details see below.

Authorities.—*Add*: Route-map, 1902; Russian Information (from a report of 1911-1912). Turkish maps, Mosul Region Series, sheets 9, 10 (1:30240), Russian copies, 1917. Soane, *Report on Sulaimania District*, 1910.

m. 0—m. 48 $\frac{1}{4}$. **Raniyeh—Ser Desht.**

(a) The route-map of the authority whose account is followed in the text for this section of the road makes the distance about 45-46 m. The Sharvat Su is marked at m. 11 $\frac{3}{4}$, and Qal'ah Dizeh at m. 17, from Raniyeh.

(b) From Russian report, quoted above.

The following route is apparently described as fit for native carts (*arabas*) between Raniyeh and 'Alsho' (Halcho), except for a stretch of about 1 verst ($\frac{2}{3}$ m.) through the Derbend Gorge.¹ For 16 versts (10 $\frac{1}{2}$ m.) beyond 'Alsho' (i. e. to m. 35 by the mileage given below) the road is passable for pack-animals only, and is a very difficult and

¹ The text of the English translation of the Russian report is here obscure. The route is there described in the direction Ser Desht—Raniyeh, and is continued from Raniyeh to Kōi Sanjaq (cf. corrections to *Route 40*). The text reads: 'From Alsho village to Kala Diza, verst 40 [i. e. from Ser Desht], and further on, as far as the spur. Derbeut [*read* "as far as the spur at Derbend"] village (verst 54) the road is fit for arbas except a portion about a verst long across the Derebeut (*sic*) gorge. From the spur of Derebeut village to the town of Ranya (verst 65) and further on through Gyulek village (verst 78) to the Hizan-Su River (verst 85), arba, except a portion about a verst in length, across the spur, at 5 versts from the town of Ranya.' The spur 5 versts (3 $\frac{1}{2}$ m.) from Raniyeh seems to be not the same as 'the spur of Derebeut village', for Derbend village is placed at 11 versts (7 $\frac{1}{4}$ m.) from Raniyeh. The first-named spur may lie on the track between Raniyeh and the Derbend spur, running out from the hills E. of the Raniyeh plain, or it may perhaps be identical with the Dahli Bisman hills mentioned in a note on pp. 256-257 in the text of the *Handbook* (*Route 40*) as situated about 4 m. from Raniyeh on one of the tracks leading to Kōi Sanjaq. See also corrections to *Route 40*.

rocky path 'before the spur, and in the area of Alsho village'. The rest of the route is passable for native carts, though it is difficult for such traffic from m. 35 to m. 37 $\frac{3}{4}$.

Versts from Raniyeh	Miles from Raniyeh	
0	0	Raniyeh.
11	7 $\frac{1}{4}$	Derbend.
25	16 $\frac{1}{2}$	Qal'ah Dizeh.
37	24 $\frac{1}{2}$	'Alsho' (Halcho on W.O. map, sheet 34).
65	43	Ser Desht.

(c) Alternative Route from Qal'ah Dizeh to Ser Desht. From Turkish maps, Mosul Region Series, sheets 9, 10, Russian copy.

On these maps the route from Qal'ah Dizeh to Ser Desht is shown as making a détour to N. by the valley of the Wazneh Chai and as passing by 'Shene' (Shenie on W.O. map, sheet 34). The total distance of the route as measured on the Turkish map is about 26 m., but probably it is in fact rather longer.

m. 48 $\frac{1}{4}$ —m. 70. **Ser Desht—Banah.**

The total distance given in the text for the route between Ser Desht and Banah (21 $\frac{3}{4}$ m.) is taken from *Routes in Persia*, vol. ii, Route 106, but it is probably much too short. Soane (*Report on Sulaimania District*) and a Russian report agree in making the distance between these places about 35 m. (Soane, 35 m.; Russian report, 34 m.).

The Russian report states that the road is good for two-wheeled transport; it gives no details of the line followed.

Soane (1910) says that the road is not good. According to Soane's description and map the road on leaving Ser Desht rounds a spur and runs to the Lesser Zab. After crossing that river it heads SE., 'skirting the bases of the hills,' to the Banah Su. It keeps parallel with the Banah Su for some miles, and then crosses to the S. side of the stream to enter Banah.

ROUTE 42, pp. 261-264

ERBIL—KÖI SANJAQ

Add:

(a) Russian Information (from a report of 1911-1912).

Route *via* 'Simach Shirin', 68 versts (45 m.). For the most part this road is fit for native carts (*arabas*), but in places is a pack-road 'on the spurs and on account of the rocks'.

(b) Russian Information.

Route *via* Babi Kubiani and Ashqaf Saqqā (compare text, under m. 21). Distance not given. The road is reported fit for native carts.

ROUTES 43 a, 43 b, pp. 264-269

ERBIL—ROWANDUZ

Of the two routes described in the text *Route* 43 b seems to be the one more frequently used.

ROUTE 43 b, pp. 268-269

ERBIL—ROWANDUZ

Via THE BĀBĀ CHICHEK DĀGH

Authorities.—*Add*: Russian Information (from reports of 1911-12 and 1917).

Introduction.—According to information received by the Russians up to June 1, 1917, transport by native carts had become possible between Erbil and Rowanduz. See further, on road-making in 1917 between Bābā Chichek and Rowanduz, corrections to *Route* 45 a.

(The Russian report of 1911-12 had described the Erbil—Rowanduz road *via* Bābā Chichek as fit for pack-animals only except in the first 19 versts ($12\frac{1}{2}$ m.) from Erbil.)

m. 16-m. 52. **Dera—Rowanduz.**

The Russian report of 1911-12 gives distances as follows :

Versts from 'Deraa- Halil'	Miles from 'Deraa- Halil'	
0	0	'Deraa-Halil' (Dera?).
20	$13\frac{1}{4}$	Bābā Chichek.
43	$28\frac{1}{2}$	Kāni Batman.
67	$44\frac{1}{4}$	Rowanduz.

Notes. (a) Bābā Chichek is apparently the village of that name, which the route in the text leaves some 4 m. to W. (See under m. 31 in text.)

(b) On the distance here given for the stretch between Kāni Batman and Rowanduz (24 versts, 16 m.) see corrections to *Route 45 a*.

ROUTE 44 a, pp. 269-272

ROWANDUZ—RANIYEH

Via THE BEJĀN PASS

m. 3. For **Kalant Su** read **Kalūd Su** (compare *Route 44 c*, m. 50½ in text).

ROUTE 44 c, pp. 273-278

RANIYEH—ROWANDŪZ

Via THE NALKEWAN VALLEY

Total distance.—The length of this route is very doubtful.

The total distance given in *Mil. Report on E. T. A.*, vol. iii, *Route 114*, is 76 m. This estimate appears to be exaggerated, not only in the light of the map (W.O., E. T. A. Series, sheet 33), but from a comparison with the times given in the *Mil. Report* and by Sykes. The total marching time given in the *Mil. Report* is 18 hrs. 8 min., that of Sykes is 15½ hrs.

The distance given in the text (53 m.) may also be too long. A rough estimate by the W.O. map would make the distance seem to be between 40 and 45 m. The total marching time taken by Sykes, 15½ hrs., also appears to favour a somewhat lower estimate of mileage than that in the text, especially as he found the road a bad mule-track as far as Gurrawān. Sykes's map makes the distance about 38 m., but it is only a rough sketch, not intended to be taken as accurate.

m. 0-m. 17. **Raniyeh—Golan.**

Sykes, 6 hrs.

Mil. Report, 5¾ hrs.

m. 17-m. 43. **Golan—Gurrawān.**

Sykes, 7 hrs.

Mil. Report, 10 hrs.

m. 27 $\frac{1}{4}$. This pass is marked as the 'Nalkeiwan Pass' on Sykes's map.

m. 43-m. 53. **Gurrawān—Rowanduz.**

Sykes, 2 $\frac{1}{2}$ hrs.

Mil. Report, 3 hrs. 23 min.

ROUTES 45 a, 45 b, pp. 278-287

MOSUL—ROWANDUZ

It appears that the main lines of communication between Mosul and Rowanduz have been (a) *via* Girdamamik and Bābā Chickek (*Route* 45 b and corrections), and (b) *via* Erbil and Bābā Chickek (*Route* 25 a and corrections; *Route* 43 b and corrections).

ROUTE 45 a, pp. 278-285

MOSUL—ROWANDUZ

Via 'AQREH

Authorities.—*Add*: Russian Information (reports of 1911-12 and 1917).

Introduction.—*Delete, and substitute*: 'The road is probably passable for wheels in the Mosul plain, but fit only for pack-animals where it crosses the hills between Topezaweh and the Ghazir. It is doubtful whether it is practicable for wheels from Bardaresh to 'Aqreh, as the ground is here swampy. From 'Aqreh to Harīr it is a pack-road.'

For reports on the condition of the road between Harīr and Rowanduz see corrections to *Route* 45 b.

m. 72 $\frac{1}{2}$. *Delete*: 'From which a cart-road . . . to Rowanduz.'

See corrections to *Route* 45 b.

m. 72 $\frac{1}{4}$. **Khān-i-Batman.** So Lorimer; probably the name should be **Kāni Batman**, as in Russian report.

m. 77 $\frac{1}{4}$ -m. 89 $\frac{1}{2}$. **Khān-i- (Kāni) Batman—Rowanduz.**

According to the Russian report the distance between these two places is 24 versts (16 m.). Lorimer took 4 hrs. 11 min. on the journey from Rowanduz to Kāni Batman, and if the distance is 16 m. this would seem to be fast

going, the condition of the road in 1910 being taken into account. Kāni 'Othmān (see under m. 77 $\frac{1}{4}$ in text) is placed by the report of 1888 at 15 m. from Rowanduz.

ROUTE 45 b, pp. 285-287

MOSUL—ROWANDUZ

Via GIRDAMAMIK

Authorities.—*Add*: Russian Information (reports of 1911-12 and 1917); and other reports.

Introduction.—*Delete* 'The route may be . . . See *Route 25 a* ' and *substitute* :

'(a) There is a route from Mosul to Girdamamik which is passable for wheels. This probably keeps in the plain passing S. of the hills between Mosul and the Ghazir and following for most of its length the motor-road to Eski Kelek. Before the war the track described in the text was very bad where it crossed the hills.

(b) There appears to be a route from the Great Zāb to Bābā Chickek which is passable by motors (perhaps from Eski Kelek *via* Erbil).

(c) As regards the section between Bābā Chickek and Rowanduz, work has apparently been done on it, and it may be now passable for carts. The report of 1916 that a cart-road had been built from Harīr to Rowanduz, but that the work would be difficult. On the other hand, according to a Russian report, a road from Bābā Chickek to Rowanduz was actually built in January 1917, and from the information received by the Russians up to June 1, 1917, it appeared that transport by native carts (*arabas*) had become possible between Erbil and Rowanduz.'

m. 63. **Bābā Chickek.** The distance from here to Kāni Batman as given in the text (*Route 45 b*, m. 63-m. 72; *Route 45 a*, m. 72 $\frac{1}{2}$ -m. 77 $\frac{1}{4}$) is 13 $\frac{3}{4}$ m. According to the Russian report it is 15 m.

m. 72-m. 89. See corrections to *Route 45 a*.

THE EUPHRATES VALLEY

ROUTE 46, pp. 288-298

BAGHDAD—ALEPPO

Introduction.—*Add at end of 4th Paragraph :*

‘The road has recently been considerably improved. The section Hit—Ānah, where wadis are frequent, was apparently being improved for motor-transport in the summer of 1917, and in March 1918 the road here was found excellent. Work was also reported to be proceeding in 1917 between Deir ez-Zor and Meskeneh.’

8th Paragraph. The T.L. crosses at Fellūjeh, not up-stream as stated in the text and as given by some maps.

m. 43½-m. 72½. **Fellūjeh—Ramādiyeh.** The road from Fellūjeh to Ramādiyeh seems to have been passable for all arms in the spring of 1917, and little work was then required to make it fit for heavy motors.

m. 43½-m. 103½. **Fellūjeh—Hit.** There is a road from Fellūjeh to Hit on the Jezreh side of the river. As far as Saqlāwiyeh the road is good and fit for motors, but liable to be flooded in spring. From Saqlāwiyeh the road runs W. to the canal and is fit for motor traffic in part at least, though the ground is much intersected by irrigation-cuts. After crossing the canal the route traverses undulating desert, keeping sufficiently far inland to avoid the low ground. There is a camping-ground opposite Ramādiyeh, beyond which the road again bends inland over desert higher and more broken than that previously crossed, descending to the river again rather over 20 m. below Hit. The road here is good. Shortly afterwards it again strikes across the desert and returns to the river about 4 m. below Hit.

m. 45. *Between this entry and the next insert :*

- 'm. 46. Road crosses a canal at a bend in the river; regulator.
Abu Tin village.
- m. 48 $\frac{1}{4}$. **El-'Abd**, tomb on r.'
- m. 54 $\frac{1}{2}$. *Delete this entry (see correction to introduction above).*
- m. 51 $\frac{1}{2}$ —m. 61 $\frac{1}{2}$. *Between these mileages insert the following:*
- 'm. 52 $\frac{1}{4}$. Cross a channel 18 ft. wide by a good brick bridge; two other canals are crossed in the next $\frac{1}{2}$ m. The high ground here approaches the river-bank.
- m. 53 $\frac{1}{2}$. **Sinn ez-Zabban**, mound between the road and the river. A little farther on the road forks. One branch leads direct across the plain. The other keeps inland along the edge of the high ground. Both routes are fit for motor-transport.'
- m. 66 $\frac{1}{2}$ —m. 72 $\frac{1}{2}$. At about m. 70 $\frac{3}{4}$ is the N. end of the new escape-canal from the river to Lake Habbāniyeh. The banks are 10 ft. above ground-level, and in 1917 there was a passage 14 yds. broad in the earth-banks left for the road. In April of that year the canal had not yet been connected with the river.
- m. 73 $\frac{1}{2}$. *Delete this mileage and the sentence, 'Road crosses . . . bridge.'*
- m. 74. The **Et-Tāsh** canal is about $\frac{1}{2}$ m. beyond Ramādiyeh instead of 1 $\frac{1}{2}$ as given in the text. There is some doubt whether the bridge is of stone or brick.
For Azeziyeh read: 'Azīziyeh.
 The road now forks, the l.-hand branch going to Abu Jir.
- m. 74 $\frac{1}{2}$. *Delete this mileage and the first part of the entry, as far as 'cultivation', and substitute:*
- 'm. 76. The road leaves the river and . . . '
- m. 86. For the next 8 $\frac{1}{2}$ m. the low-lying parts of the road are liable to be flooded and may be impassable for motor-lorries after rain.
- m. 103 $\frac{1}{2}$. A report of 1916 speaks of petroleum stores at Hīt, and another of 1917 says that benzine has been obtained.
- m. 103 $\frac{1}{2}$ —m. 186 $\frac{1}{2}$. **Hīt—Ānah**. The road between Hīt and Ānah was apparently being improved for motor-transport in the summer of 1917.
- m. 103 $\frac{1}{2}$ —m. 110 $\frac{1}{2}$. About 4 $\frac{1}{2}$ m. NW. of Hīt is the Wadi Merj, which is ramped where crossed by the road.
- m. 110 $\frac{1}{2}$. *Add: 'At 8 $\frac{1}{4}$ m. NW. of Hīt is the Wadi Sulāhiyeh, which is ramped where crossed by the road.'*
- m. 146 $\frac{1}{2}$. **Wādī Hajlān**. There is a well-built permanent bridge 150 yds. long over a wadi about 4 m. S. of Hadīseh, i.e. apparently the Wādī Hajlān.

- m. 150 $\frac{1}{2}$ -m. 169 $\frac{1}{2}$. **Hadiseh—Feheimeh.** In May 1917 it was stated that a labour battalion was employed on road-making along this stage of the route. The road is now good.
- m. 205 $\frac{1}{2}$. For '**āhiyeh**' read '**Nāhiyeh**'.
- m. 322 $\frac{1}{2}$ -m. 470. **Deir ez-Zor—Meskeneh.** The road between Deir ez-Zor and Meskeneh has recently been improved.
- m. 327 $\frac{1}{2}$. The ravine appears to be about 7 m. from Deir ez-Zor, instead of 5 as given in the text.
- m. 334-m. 341 $\frac{1}{2}$. *Between these mileages insert :*
 'm. 335. Deep wadi.
- m. 336. Caves in the plateau-edge, which appears to be very steep about here. Travellers in 1907 followed a road which made an abrupt bend during the next 2 m. There may perhaps be an easier road nearer the river. At the end of the détour is a grave-tower called **Tābūs.**'
- m. 341 $\frac{1}{2}$ -m. 350 $\frac{1}{2}$. *Between these mileages insert the following :*
 'm. 344. Wadi.
- m. 346 $\frac{1}{4}$. Large wadi from the Jebel Bishr.
- m. 346 $\frac{3}{4}$. Ascent over a projecting bluff.
- m. 348 $\frac{3}{4}$. Wadi.'
- m. 350 $\frac{1}{2}$. After '**zaptieh** post' add 'and khan'.
- m. 351. There is cultivation about $\frac{1}{2}$ m. farther on, with *cherrads* on the bank.
- m. 353 $\frac{1}{2}$ -m. 372 $\frac{1}{2}$. **Tibni—Qishlaq Ma'dan.**

The following are some details of an alternative route along the river :

- 'This road is liable to become heavy after rain ; a good many irrigation-cuts have to be crossed.
- m. 356. Tamarisk jungle along the river.
- m. 357. Grave-tower on l. ; **Sheikh Shībli** mound.
- m. 357 $\frac{3}{4}$. Rock-tombs on l.
- m. 358 $\frac{1}{4}$. Ruined fortress of **Halebiyeh** (see *Route IV H*, m. 47 and corrections).
 Road runs through tamarisk jungle.
- m. 360. Small stream ; **Qabr Abu'l 'Atiq** on the l. bank of the river opposite.
- m. 360 $\frac{1}{2}$. Rapid in the river to r., below several small islands.
- m. 362 $\frac{1}{2}$. Cultivation along the river. **Khānūka** village on the l. bank.
- m. 364. Ruin and cemetery.
- m. 364 $\frac{1}{2}$. **Qsubi** village. The cliffs to l. are about 130 ft. high.
- m. 365 $\frac{1}{2}$. Wadi.

- m. 366. Wadi. Road ascends over a ridge.
- m. 368. Wadi.
- m. 368½. A road over the plateau comes in on the l.
- m. 370. **Ma'dan** village.
- m. 374½. **Qishlāq Ma'dan** on a bluff where the plateau comes near the river.'
- m. 372½-m. 389½. *Between these mileages insert the following :*
- 'm. 384. Mound to l. in the valley-plain, which is marshy at this point. Spring at the foot of the plateau-edge, here 1½ m. distant.
- m. 387. Cemetery to l. and spring at the foot of the plateau-edge.'
- m. 395½. *Add :* 'About 1 m. beyond the village on the l. are the ruin-field of **Nukheileh** and wells.'
- m. 397. *Add :* 'Ground marshy in places. There is a patch of soft sand, about 200 yds. long, which is very difficult for wheels.'
- m. 410. **Raqqah**. *Add :* 'The longer distance (18 m. from Sabkhah) is probably the more accurate. From the point reached at m. 410 Raqqah lies to NW. The caravan-road continues due W., while the road to Raqqah runs WNW. up the river to the ferry opposite the town, 5½ m. distant.'
- m. 414. *Add :* 'The road on this stage apparently lies over the desert-plateau. The road from Raqqah ferry keeps to the valley except where it has to ascend over bluffs of the plateau-edge which come close to the river. At about 14 m. from the ferry, it reaches the ruin-field of **Suriyeh**, and 2 m. farther, the village khan and guard-house of **El-Hammām**.'
- m. 426. The distance, 1 m., given between El-Hammām and Tel eth-Thedeyein seems to be under-estimated. It is probably about 2½ m.
- After 'Tel eth-Thedeyein' add 'The ruin-mound is about 130 ft. high. **Huneideh**, a village belonging to Ahmed el-Faraj, lies to W. of it, about 1 m. distant.'*
- m. 448. The minaret of Abu Hureireh lies at about this point (23 m. from El-Hammām). The *zaptieh* post is about 4 m. past the minaret.
- m. 457. *Add :* 'About here is the ruin-field of **Quseir el-Dibsi**, with the village of Dibsi on the cultivated strip along the river a little farther on.'
- m. 468. The ruins of Eski Meskeneh should probably be placed at about 3½ m. from Meskeneh instead of 2 m. as in the

text. On the river-bank is the Waddah tent-village of **Khafāja**.

m. 470-m. 482. *This distance is probably about 2 m. too short. The details of the road seem to be made up as follows :*

' m. 473 $\frac{3}{4}$. Ascend out of the river-valley. Two wadis are crossed.

m. 476 $\frac{1}{2}$. Several water-courses are crossed in the next mile. They unite to form a stream flowing to the Euphrates. On the slope of a hill to l. are the ruins of a building of solid construction. It is called **Khān el-Signor** or **Khān el-Sha'rah**.

m. 479 $\frac{1}{2}$. Mound on r.

m. 481. A road comes in on the r.

m. 484 $\frac{1}{2}$. Sulphur pool and ruins. The well here is brackish and is called **Jubb el-Mahdūm**. Small mound to r. The end of the Jebel el-Hass lies to S.'

(i) LEFT BRANCH, JUBB EL-MAHDŪM--ALEPPO

Delete the account given for this route and substitute the following :

'The route given below is taken from the notes of a traveller who made the journey in 1898. The distances are calculated from his travelling-times, allowing generally 3 $\frac{1}{2}$ m. per hour. The original is confused, however, at certain points. This branch is not the main road, which passes by Deir Hafir (see on right branch below).

Miles from Baghdad	Inter- mediate times from Jubb el- Mahdūm		
	hrs.	mins.	
484 $\frac{1}{2}$	0	0	Jubb el-Mahdūm.
489 $\frac{3}{4}$	1	30	Village to r. ; another to l.
491 $\frac{3}{4}$	0	35	Another village to r. and one to l. Muddy water-hole among stones ; water 3 ft. below the surface.
493	0	20	Small hill with a few houses at its foot.
494 $\frac{1}{4}$	0	20	Water-hole to r. similar to that already passed, but smaller.
494 $\frac{1}{2}$	0	5	Long narrow water-hole ; brackish water.
496	0	25	Mound, near a well about 10 ft. deep. The district is called Tel Kasaf or Tel Ksaf . Good water. Thin grass.
496 $\frac{1}{2}$	0	10	Village of mud huts to r., a short distance from the mound just passed.

Miles from Baghdad	Inter- mediate times from Jubb el- Mahdūm		
	hrs.	mins.	
498½	0	35	Mound and village.
500	0	25	Small mound; a village on either side at equal distance from the mound.
501½	0	25	Watering-place among bushes of broom. Mound and village to r. in the plain.
		?	Road crosses a stream; 3 trees on the bank.
501¾	0	3	Grehn (GrInn) village. To r. is a mound with a cluster of mud huts at its foot called Asmieh .
502½	0	12	A few shrubs of broom to r. showing the presence of water.
505½	0	55	Jedeideh village near a mound. Two streams, one fairly large. Maize-cultivation and a fair number of trees. Jebbul lake lies about 2½ m. distant at the foot of a ridge.
507½	0	45	Kseril el-Wed , a few houses and some trees. About 1½ m. to r. are some trees and a few mud huts called Halebiyeh .
			Road crosses a plain covered with thistles.
509	0	25	Mound to r., with some beehive-shaped huts at the foot.
509½	0	10	' Ain Saber (? 'Ain Sabil), village with gardens.
513	1	0	Tel Haran , fair-sized village with some trees. Guest-house.
515	0	35	Cultivation to r.
516	0	15	Tel Hassel (? Tel Hasl). The remainder of the route appears to coincide with the last few miles of <i>Route 57</i> .
			Road now tends northwards. Traffic can be seen passing along the northern branch of the road.
520	1	5	Well, with a stone head. Jibrin village (see r.-hand branch, m. 526, below).
522¼	0	40	Nairab village to l. close to the road. The village forms a sort of fortress. The houses are built in groups of 5 or 6, each group surrounded by a wall. Several wells, all covered in.
523¼	0	15	The road is stony here.
523½	0	5	Enclosed gardens begin. Olive-groves.
525½	0	31	Here the r.-hand branch of the road is joined.
526	0	8	Eastern gate of Aleppo .'

(ii) RIGHT BRANCH, JUBB EL-MAHDŪM—ALEPPO

Delete the account given in the text and substitute the following :

'This appears to be the route ordinarily followed by wheeled traffic. The road passes over clay soil with sand here and there. It is liable to become very heavy in places after rain.

Miles from
Baghdad

- 484½ **Jubb el-Mahdūm.**
 486½ Mound to l. The T. L. crosses to N. of the road.
 488½ Village ½ m. to l.
 488¾ **Tel Abu Mutla'**, mound to l.
 489¾ **Jubeireh** village ¾ m. to l.
 491½ **Ma'dathah** village ½ m. to l.
 492 Cross a stream from **El-Lālah** village, which lies 1½ m. to N. Cultivation along the stream.
 493½ Mound close to l. with '**Aqūlet** village just beyond it on the S. Ground now covered with small stones.
 494½ A road comes in on the l. from '**Aqūleh**.
 495 Cross a low rise.
 496¼ **Deir Hafir** village on r., below a mound about 60 ft. high. Khan (on l. of road) and a few shops. Spring and stream of good water. Grass in spring and numerous Arab camps.
 497 T. L. recrosses to S. of road. Gardens to r.
 497¾ Country-house and mound ½ m. to r.
 500¼ Spring on r. forming a small stream.
 500½ **Tel Khumaimah**, mound about 40 ft. high on r. Village about ¾ m. N. of it.
 501½ Stream.
 502½ Road runs through cultivation.
 504 A road branches NE. to **Resm 'Abūd** village, about 2 m. distant.
 507½ Khan on l. at the foot of **Tel Quwairis**, a mound about 50 ft. high.
 Road crosses three branches of a stream called **Nahr Quwairis** or **Nahr el-Dhahab**.
 508 '**Ain el-Jamajimeh** village ½ m. to r. on the stream just crossed.
 509½ Ascent over a low rise.
 512½ **Rashīd** village ½ m. to l.

Miles from
Baghdad

- 512 $\frac{3}{4}$ Road bends NW., skirting a mound to l.
 513 $\frac{1}{4}$ **Abu Zanneh** village. Direction now SW.
 513 $\frac{1}{2}$ Cemetery on l. Direction changes to W.
 515 **Umm el-'Aml** village $\frac{1}{2}$ m. to r. Cultivation.
 516 $\frac{1}{2}$ **Tureikiyeh** village $1\frac{3}{4}$ m. to l.
 517 $\frac{1}{2}$ Cross-road, leading, on the l. to a village about $\frac{3}{4}$ m. distant,
 at the foot of a mound called **Tel 'Alam**, on the r. to
 another village about $2\frac{1}{2}$ m. NNE. Road runs through
 cultivation.
 519 $\frac{1}{4}$ A road comes in from **Tel 'Alam**.
 Large village among cultivation $1\frac{3}{4}$ m. to r., **Tel Safreh**
 3 m. to l.
 520 $\frac{3}{4}$ **Dalikiyeh** village close to the road on l. Cultivated fields.
 522 $\frac{1}{4}$ **Bir Huseineh** village. **Tel Tiyareh** mound $1\frac{3}{4}$ m. NW.,
 with village on either side of it.
 524 Ascent over a low rise.
 526 **Jibrin**, beehive-shaped village on l.
 527 $\frac{1}{2}$ **Nairab** or **Halebli** village 1 m. to l. Two wells.
 528 $\frac{3}{4}$ Cistern. T. L. crosses to N. of road.
 531 Eastern gate of **Aleppo**.'

CONNEXIONS BETWEEN TIGRIS AND EUPHRATES VALLEYS

ROUTE 49 a, pp. 308-311

MOSUL—DEIR EZ-ZOR

Via 'AIN EL-GHAZAL.

Authorities.—*Add*: Langenegger, *Durch verlornе Lande*, Journey of 1905; Rassam, *Asshur and the Land of Nimrod*; Russian copy of a Turkish map.

For further information on the road from Mosul to Tel A'far, which was received too late for these corrections, see corrections to Vol. IV, *Route 92 a*.

Introduction, l. 4.—*Insert* 'then' before 'impracticable'.

m. 0. *Insert* 'stony' between 'undulating' and 'country'.

p. 308, m. 10. From **Humeidat** village there is a steep path down to a watering-place on the river.

p. 308, m. 10—m. 18 $\frac{3}{4}$. From Humeidat Langenegger went over the cultivated plain of Zerga, past Khirbet el-Baghleh (ruins), over a spur from Jebel el-Jubeileh, and then through the ruin-field of Khirbet ed-Daulaieh.

p. 308, m. 18 $\frac{3}{4}$. *Delete* '(Khirbet el-Baghleh?)'.

p. 309, m. 28 $\frac{1}{2}$. The water at 'Ain el-Beidhā is apparently scanty in quantity. It is brackish, but drunk by Arabs and animals.

p. 310, m. 38. **Tel A'far**. For 'Tel A'far . . . houses' *substitute* 'Tel A'far is an unwallled village built on the steep, bare sides of a valley which runs E. and W. with an arm towards the S. It is the seat of a mudir.'

Delete 'Tel A'far is unwallled . . . sulphurous' and *substitute* 'There is a strong spring at the E. end of the valley along which the village is built. The stream in the valley tastes slightly of sulphur.'

Delete 'on the W. side . . . Qal'at Marwān' and *substitute* 'on the rock of the SW. slope, where the valley divides into three ravines, are the ruins of a citadel called Qal'at Marwān. The position commands a wide view.'

m. 69. *Add*: 'At about 11 m. from 'Ain el-Ghazal there appears to be a well called **El-Baj**.'

m. 96.-m. 128. **El-Bid'ah—Fadgham**. The Turkish map places **Abu Hamza** wells on the route to Fadgham at about 31 m. from El-Bid'ah.

The distance between El-Bid'ah and Fadgham seems to be under-estimated. The Turkish map makes it about 45 m.

m. 160. *Add*: 'There is a considerable amount of maize-cultivation along the river.'

Add at end of route :

(a) MOSUL—'AIN EL-GHAZAL (61½ m.)

(ALTERNATIVE ROUTE)

The following details are taken from the Turkish map for the direct track between Mosul and 'Ain el-Ghazal :

Miles from Mosul	
0	Mosul.
11	Sekhaji. Track runs WSW. crossing wadis at short intervals.
24	Qal'ah Sheikh Ibrahim Kharawa. Here the track seems to cross a watershed. The general trend of the streams hitherto has been from NW. to SE. ; from now till about m. 38 they run generally from NE. to SW.
38	Cross the stream from Tel A'far. Wadis become less frequent.
61½	'Ain el-Ghazal.

(b) MOSUL—TEL ES-SAWWAR (162 m.)

(ALTERNATIVE ROUTE)

The Turkish map indicates a direct route as follows :

Miles from Mosul	
0	Mosul.
11	Sekhaji.
36	Gadana.
48	Cross wadi.
50	Rafiyeh.
63	Cross wadi (marked as Ibrelor Suyu on Turkish map).
69	Wadi (upper course of Wadi Tartar?).

Miles from
Mosul

78	Mukibireh.
92	Asri.
106	Aileh (?) . Wells and wadi.
114	El-Melha , wells.
120	Kesilat el-Halib , wells. (Agelat el-Halib? Cp. <i>Route</i> 50 (ii).)
132	Magrabbeh , wells and wadi. (Cp. <i>Route</i> 50 (ii).)
162	Tel es-Sawwar.

ROUTE 49 b, pp. 311–317

MOSUL—DEIR EZ-ZOR

Via BELED SINJAR AND SHEDĀDĪ

Authorities.—*Add*: Langenegger, *Durch verlorne Lände*, Journey of 1905; Russian copy of Turkish map.

Further information on this route, which was received too late for these corrections, will be given in corrections to Vol. IV, *Route* 92 a.

- m. 51. *After* 'This . . . Wādī Mujeirat' *add*: 'and probably the stream described by one traveller as having steep banks over 3 ft. high, difficult for pack-animals.'
Add also: 'Beyond the Wādī Mujeirat numerous water-courses, many of them dry, are crossed. The water is more or less bitter and shows signs of oil on the surface. Several tracks lead to Beled Sinjar.'
- m. 62. *Alter* 'beside the track' to 'on the l. of the track'.
- m. 76. *After* 'The figs . . . in the E.' *add*: 'Olives and mulberries are also cultivated.'
After 'watered by a stream' *add*: 'fed by five strong fresh springs.'
- m. 76–m. 83½. **Beled Sinjar—Wurdi.** *Add*: 'Cultivation is general between Beled and Wurdi.'
- m. 83½. *Add*: 'The spring lies about 10 m. distant from the village in the plain.'
- m. 86. According to one traveller Jeddaleh is a Yezidi village.
- m. 111. *Transpose* 'The route bears . . . to N.' and 'Between Es-Sihl . . . El-Mu'allaqāt', and *insert between the two paragraphs*:

'Apparently about here the Jebel Sinjar comes to an abrupt end. It is continued by a range about half as high called Jebel Jereibeh, which is joined by a low ridge to the Et-Toq outliers.'

After 'These are . . . El-Mu'allaqāt' add: 'There is a Wādī el-Qasabeh. Langenegger took $9\frac{1}{2}$ hrs. from Wurdi to this wādī, which lies under the SW. end of the Jebel Jereibeh. The water is drinkable, though a little insipid and oily. The banks are low and covered with grass and scrub. On the W. bank of the wādī, close to the track, is a conical hill about 80 ft. high. Langenegger took 6 hrs. from the Wādī el-Qasabeh to 'Ain el-Hawasiyeh (see under m. 134 below).

El-Mu'allaqāt does not appear to be on the direct route from 'Es-Sihl to Shedādi (see *Route 49 d*).'

- m. 134. For '**Hawariyeh**' read '**Hawasiyeh**', and add: 'The water is very sulphurous.'
- m. 134-m. 153. '**Ain el-Hawasiyeh—Khabūr**. This estimate of distance may be excessive. Sachau took 5 hrs. 22 min. from 'Ain el-Hawasiyeh to the Khabūr opposite Shedādi, but Langenegger gives his time between these points as $3\frac{1}{2}$ hrs. only. Compare W. O. map, E. T. A., sheets 44 and 31, where 'Ain el-Hawasiyeh is marked at about 7 m. from Shedādi.
- m. 153. After 'There was . . . war' add: 'The river is here over 50 yds. wide and 13-14 ft. deep, with steep banks. There are no trees in the neighbourhood. Some maize-cultivation.'
- m. 176. Tel Marqadah appears to be a regular watering-place.
- m. 183. Some distance above Tel el-Husein is Umm el-Amed, in 1905 the first village passed after Shedādi. There is a considerable amount of maize-cultivation here.

ROUTE 49 d, pp. 320-321

SEKENIK—THE KHABŪR AT TEL ARABAN

Authorities.—Add: Langenegger, *Durch verlorne Lande*, and Rassam, *Asshur and the Land of Nimrod*.

Rassam took about 3 hrs. between Sekenik and Umm edh-Dhiban. The latter appears to be not a well but a wādī lying in a low green

basin stretching from NE. to SW. The water is petroliferous. The desert-plateau round about is thickly covered with bushes.

From Umm edh-Dhiban Rassam went to El Mu'allaqāt (about $5\frac{3}{4}$ hrs.) and thence to Tel Taban (about 5 hrs.).

ROUTES 50 (i-vi), pp. 321-323

MINOR DESERT ROUTES IN SOUTHERN JEZIREH

P. 321. *Add the following :*

(i*) BAGHDAD—TEL A'FAR *via* THE WĀDI TARTAR

Authority :—Arab information (account of a journey in 1917).

The Wādi Tartar is said to have contained much more water ten years ago than it does now. Its source is a spring near Beled Sinjar. The inhabitants of that neighbourhood have dammed the N. end of the wadi in order to use its water for irrigation. Downstream of the dam there is water in the wadi during the winter months only ; but there is a series of brackish wells along its course.

There are wells at all the localities mentioned below from Abu Khashab onwards.

From W. of Tekrit northwards the sides of the Wādi Tartar are reported to be cliffs some 30 ft. high.

Crow-fly distance from Abu Khashab, where the Wādi Tartar was struck, to Tel A'far, 130 or 140 m. The actual distance covered was increased to nearly 200 m. by the windings of the wadi, whose series of salty wells had to be followed. Total marching time from Abu Khashab, 59 hrs.

Camels were provided by the Āl Bu Saqr under Khalaf Ibn Suwein. (A part of this tribe has come down to the 'Aqarqūf district and has placed itself under British protection.)

Baghdad.

Istablāt on the Tigris, about 9 m. S. of Samarra boat-bridge, and about 66 m. from Baghdad, on the Baghdad—Samarra road and railway. (*Route* 25 b, m. 66, and Appendix, p. 395.)

Abu Khashab on Wādi Tartar, one day's march from Istablāt and described as parallel with Samarra ; see also correction to (iv), addition (d) below. (Abu Khashab is marked on maps about 38 m. from Istablāt.)

Uweisijah, 6 hrs.

Fuweitah, parallel with Tekrit, 6 hrs.

El-Mureir, 6 hrs.

Abul Badan, 7 hrs.

Zubeidi ('Ez-Zbedi' in *Route 50* (i), text), 'parallel with Khān Kharnīneh', 6 hrs. (Zubeidi is perhaps parallel with Qal'at el-Bint on the Tigris.)

Abu Gharab, parallel with Qal'ah Sherghat, 6 hrs. In 1917 Jebūr, Homeidat, and 'Ugeidat Arabs were found here, who had come across from the Tigris to escape from the Turks.

Jaddaleh, 6 hrs.

Najmah, 3 hrs., not far from El-Hadhr. (Kiepert marks 'Tel el-Nejm' some way to the N. of El-Hadhr, but the maps here are very uncertain.) The Wādī Tartar was left a little way S. of El-Hadhr.

Khuneizirat, 3 hrs.

Wādī Kasab, 2 hrs. This wadi drains to the Tigris. It was struck at a point about parallel with Hammām 'Ali.

El-Jarin, 2 hrs.

Es-Sufrah, 2 hrs.

El-Arish, 2 hrs.

Tel A'far, 2 hrs.

(i) BAGHDAD—EL-HADHR, pp. 321-322

Some additional details for this route are given by Musil, *In Nordostarabien und Südmesopotamien* (journey of 1912), apparently from native information. According to Musil the first stage is the 'salt-road' from Baghdad to Umm Rahal, the salt-bed into which the Wādī Tartar drains. It runs to Okhlat es-Sab'a and thence to Ubeyter spring on the E. side of Umm Rahal, where the salt is obtained.

From Ubeyter the route proceeds by El-Melhat (near Jadma on the Wādī Tartar; compare correction to (iv), addition (e) below), Hamad, El-Melha, Dukeir, and Teyliyyeh. At Teyliyyeh the track divides. The eastern branch runs to 'Ain es-Sded, and thence to Mosul, the western *via* El-Hadhr, Tel Abda, and Beled Sinjar to Nisibin.

(ii) EL-HADHR—TEL ES-SAWWAR, p. 322

Add: 'There are salt-lakes at Umm Midhyābeh and El-'Aseleh. The position of the latter is said to be $41^{\circ} 45' E.$, $35^{\circ} 20' N.$ It is $2-2\frac{1}{2}$ m. long with a breadth of $\frac{3}{4}-1$ m.'

The Turkish map makes the distance between 'Agelat el-Halib and Ardḥ el-Magrabbēh about 12 m. and the distance between Ardḥ el-Magrabbēh and Tel es-Sawwar about 30 m. El-Oja lies considerably S. of the direct route between the two places last mentioned.

(iv) TEKṚIT—HĪT, p. 322

Delete this heading and entry, and substitute :

(iv) ROUTES BETWEEN TIGRIS AND EUPHRATES

Where the water on these routes is described as 'good', this may be by native standards. Much of the water in this region is brackish and hardly drinkable by Europeans.

(a) SAMARRA—RAMĀDIYEH (65 m. ?)

Authority :—Report of June 1917, apparently from native or prisoners' information.

The track on this route is said to be badly defined, but to be suitable for all arms and for motor-lorries. The Turks are reported to have preferred it for heavy transport to routes (b), (c), and (d). Good (?) water from wells occurring every few miles ; enough for 1,000 men for 2 days. Fuel plentiful (scrub ?) ; no grazing.

(b) SAMARRA—HĪT (75 m. ?)

Authority :—Report of June 1917, apparently from native or prisoners' information.

This route is said to be suitable for all arms and for motor-lorries. Good (?) water, enough for 1,000 infantry for 2 days. Fuel plentiful ; no grazing.

(c) TEKṚIT—RAMĀDIYEH (86 m. ?)

Authority :—Report of June 1917, apparently from native or prisoners' information.

This is a better route than (d) below, as its stages are shorter and the water-supply is more conveniently distributed. It seems that this route is practicable for all arms and for motor-lorries. Water from wells estimated to be enough for 1,000 men passing through ; more to be obtained by digging. Fuel plentiful ; no horse-grazing. Many sheep procurable *en route*.

(d) HIT—TEKRIT (? m.)

Authorities:—Reports of June and July (apparently from native or prisoners' information). Report of journey, October 1886. Details from reports of 1917 except where it is otherwise stated.

This route is said to follow a winding track, particularly difficult for wheels between m. 25 and m. 37, but according to one report (June 1917) the desert is passable for all arms and for motor-lorries. Distances given below are probably more or less unreliable.

Water is not plentiful. It is said that there are wells about every 16 m., but it is doubtful how near this may be to the truth. The capacity of the wells is not large, but water could be obtained by digging, which would be rather heavy work. The supply of water at the Turkish posts is variously described as 'fairly good' and 'brackish and scarcely drinkable'.

Fuel: reported to be plentiful; apparently scrub.

Grazing: none, according to a report of 1917; in 1886 a good deal of yellow bent grass was found along the route.

The following account is given of the posts established by the Turks between Hit and Tekrit:

From report of July 1917. Four posts:

1. At m. 25 from Hit. Well of brackish water, 2 ft. below ground, with a supply for 1,000 men daily.
2. At 12 m. NE. of No. 1. Well of sweet water for 500 men daily.
3. At 28 m. NE. of No. 2. Well of sweet water for 500 men daily.
4. At 18 m. NE. of No. 3. Water as at No. 1.

(Names of the posts are given in another report as Sultaniyat, Dekuk, Abu Khashab, Abu Derriji.)

(e) TEKRIT—ĀNAH (about 121 m.)

Authority:—Musil, *In Nordostarabien und Südmesopotamien* (journey of May 1912).

Musil found water in the desert nearly everywhere. The wells were from $11\frac{1}{2}$ to 10 ft. deep, but much contaminated with dead locusts, which filled them to a depth of 3 ft. Drinkable water was to be found only where Arabs were camping and keeping the wells clear. The destruction of the pasture by the locusts was driving the

Arabs out of this region, and 10 days after Musil's journey no drinkable water could have been found.

Miles from
Tekrit

- 0 **Tekrit.** The country between Tekrit and the Wādi Tartar is an undulating plain with many shallow springs. Direction of route to m. 12 W. by S.
- 8½ Cross a wadi.
- 12 Cross a wadi draining to Umm Rahal salt-bed (see p. 98). Direction from here to the Wādi Tartar WSW. Outcrops of alabaster are seen. The desert slopes W. to the depression in which the Wādi Tartar lies. This depression is 6-7 m. broad.
- 36½ Cross the **Wādi Tartar** near a projecting bluff called **Jadma**. The wadi bed is in places 2½ m. wide and is said to be full of water after heavy rain. In the many water-channels in the bed are small pools of brackish water and near them small clumps of *tarfu*.
At Jadma the valley-bottom is of smooth sandstone, and the Tartar can be forded here even when it contains running water. To S. are the insignificant ruins of a khan, and farther SE. other ruins beside the wells of El-Melhat. Here the route crosses the track from Baghdad to El-Hadhr. Cp. corrections to (i) above.
From the Wādi Tartar to m. 46½ the direction is approximately WSW.
Many hollow outcrops of alabaster are now seen. These have a crust 1-3 ft. thick. Some of them rise to a height of over 12 ft., and give room enough underneath to shelter 20 persons. Many of the crusts have fallen in, thus forming deep holes which have to be avoided with care by camel-men. They are called Et-Tablat, and are said to occur up to the neighbourhood of El-Hadhr.
- 46½ **Abu Sumach**, on a wadi draining into Umm Rahal; encampment of Dilaim; water-hole about 6½ ft. deep and 5 ft. wide, with about 2½ ft. of water. The direction from Abu Sumach is about WNW. Route rises on to a terrace which runs E. and W. and falls away to the S.
- 102½ Reach the Mosul—Rawa route and turn along it SSW. The ground from about here falls towards the Euphrates in broad steps intersected by deep wadis which occasion difficulties in the descent to the river.
- 121 **Rawa**, on the l. bank of the river, opposite **Ānah**.

P. 323. Add the following :

(vii) **ĀNAH—EL-MELHA**

Authority :—Musil, In Nordostarabien und Südmesopotamien (Journey of 1912).

Miles from
Ānah

- 0 **Ānah.** From Rawa the l. bank of the Euphrates is followed.
- 9½ **En-Nutareh** (see *Route 47*, m. 9½). Here an ascent is made NW. on to the Jezireh plateau across several wadis. In the upper course of one of these, the Wādī Sureyser, is an old irrigation-dam near the wells called El-Medkar. The desert-plateau in this region is a plain without valleys, but crossed by long, flat-topped undulations. There are many springs with clear, brackish water. According to native information, in May 1912, it had not rained copiously for 6 years. Hence the plateau was bare of vegetation except in the depressions where there were clumps of *nejtul*, which the camels would not touch.
- 40 Eastern edge of **El-Edejd**, salt-bed. Track runs across it. In extent the bed is about 30 m. long by 6-7 m. broad. The salt is dazzlingly white and quite pure. It is composed of large, generally octagonal flakes, which protrude about $\frac{3}{4}$ in. above the surface.
- 95 **Es-Sihl** or Es-Sichr, on the Khabūr about 12 m. above its junction with the Euphrates. Track ascends the l. bank of the river.
- 112 **Tel es-Sawwar.** The river is crossed, and the track proceeds NW., at first over flat ground and then over stony undulations which become higher and broader till they form a line of flat-topped hills called **Chittab ez-Zerv**. Wells are very numerous, with depths of 80-85 ft. in some cases.
- 162 Large permanent tent-village between **El-Melha** and **El-Mlehan**. (From here Musil turned W., crossing the main road from Deir ez-Zor to Harran and Urfel, and, passing between the two craters called El-Manaher, reached the Euphrates at El-Hamra (see *Route IV H*, m. 106½).) El-Melha lies 60 m. E. of Raqqah and about 65 m. in a direct line from the Baghdad Railway at Nus Tel (Gojar) station.

NOTE ON SALT-DEPOSITS IN THE DESERT SOUTH OF THE JEBEL
SINJAR

In addition to the Baghdad—Umm Rahal route (see corrections to *Route 50* (i) above) there are probably several other routes in regular use by caravans engaged in the salt trade. There is said to be a considerable traffic from the Wadi Tartar to Tekrit, Ramādiyeh, Hrt, Ānah, and Deir ez-Zor, and there is an important salt-deposit 30–35 m. SW. of El-Hadhr. The latter comprises three lakes fairly close together, the largest of which is called Ashkar. Tracks appear to run from El-Hadhr past these lakes, possibly to Ānah and Meyyādīn.

The direct track El-Hadhr—Tel es-Sawwar has already been referred to (see corrections to *Route 50* (ii) above), and this may possibly be mainly a 'salt road', there being two salt-lakes on the route, viz. Umm Midhyābeh and El-'Aseleh (see p. 98 above).

The El-Edejd deposit has also been spoken of (see above, p. 102). This bed appears also to be called Saba'a.

Another bed, called Bevara, lies ENE. of Meyyādīn, about $41^{\circ}8'E.$ and $35^{\circ}13'N.$ It is about $7\frac{1}{2}$ m. long and $1\frac{1}{4}$ m. broad, and in the middle of it is a small island. To N. is a rocky chain of (basalt?) hills called Er-Roda or Er-Rada, a name which appears to be given also to the lake. The Bevara bed does not lie on any caravan-track, and the nearest drinking-water is said to be 2 hrs. farther E. (or 12 hrs. according to one account). It is also stated, however, that wells have been sunk in the Er-Roda ridge.

THE SYRIAN DESERT

ROUTE 51, pp. 324-325

HĪT—RAHĀLĪYEH

m. 0. For '**Rahā-liyeh**' read '**Rahāliyeh**'.

m. 40. **Temāil** (Qasr Temāil). This place is marked on the W. O. map (E. T. A., sheet 42) about 30 m. SSW. of Hīt, but was found by a reconnaissance to be considerably farther SE. The mound on which the fort (now in ruins) is situated is about 300 yds. in circumference. From its western slopes flow a number of fine springs, forming a stream which empties itself into a reservoir 45 × 30 ft., with an average depth of 3 ft.; the water is clear and sweet. The overflow from the reservoir (about 2,000-3,000 gall. p. h.) forms a stream which is absorbed in the desert after about half a mile. About 12 Arabs live here and cultivate a small patch of ground.

About 5 m. SE. of Temāil is a range of hills said to mark the source of the Wādī Farah, which apparently runs to a point about 7 m. S. of the Habbāniyeh lake.

ROUTE 52, pp. 325-329

HĪT—DAMASCUS

Authorities.—*Add*: Route map by Miss G. Bell. R. G. S. Map, 1:1,000,000 (G. S., G. S. No. 2555), Sheets North I 88 (1916) and North I 37 (1917).

Introduction.—*Add*: 'The total distance given in the itinerary is almost certainly 30-40 m. too short. The following distances are taken from the most recent maps. The mileage for the détour through the Khuweimāt area (see under m. 202 in text) is included.'

Miles from	Hit
0	Hit.
10½	Kebeiseh.
15	'Ain Za'zu to l.
34½	Qasr Khubbāz,
64½	Qasr 'Amij.
82½	Rijm es-Sabun.
92½	Wādi el-Mu'aisir.
102½	Muheiwir.
163	Bir Melureh.
172	Wādi Semhān.
198	Wādi Sawāb (first small tributary).
209	Détour through the Khuweimāt region begins.
215	Wādi el-Wālij.
224	The westerly direction is resumed.
246	Jebel Salan to r.
310	Wādi Ha'il.
316	Wādi Sab'ah Bi'ar.
342	Qasr Saigal.
358	Khān Abu esh-Shāmeḥ.
372	Dumeir.
398	Damascus.'

m. 15-m. 31½. For 'Khebas' read 'Khubbāz'.

m. 102½. **Wādi Haurān.** A traveller in 1914 turned to WNW. off the post-road about here. During the next stages of the route several of the wadis mentioned in the itinerary as crossed by the post-road were passed lower down their course. After about 140 m. a watershed was apparently crossed, the direction of the wadis, hitherto generally from SW. to NE., now changing to from SE. to NW. A considerable number of these were crossed during the next 20 m.

At about 180 m. from Muheiwir direction was changed to SW. and the southern route from Tadmor to Damascus was joined at or near Bir Sakr (see *Route 54* (i), m. 133).

m. 202. *Delete:* 'This détour . . . m. 233½'.

m. 222. Umm Uwel apparently lies to S. of the route.

m. 233½. For 'Khōr et-Tanj' read 'Khōr et-Tanf'.

ROUTE 53, pp. 329-330

ABU KEMĀL—TADMOR

Introduction.—*Add*: 'The distance in a direct line between Abu Kemāl and Tadmor is about 155 m. The distances given in the text from Abu Kemāl to m. 212 are taken from the authority's route-report, in which the mileage has been calculated from times. The course followed makes a détour to N. Probably the estimates of distance are exaggerated, but there is no means of detecting the distribution of the error.'

ROUTE 54, pp. 331-338

DEIR EZ-ZOR—DAMASCUS

Authorities.—*Add*: Langenegger, *Durch verlorne Lande*; Porter, *Five Years in Damascus*; Post, in the *Quarterly Statement of the Palestine Exploration Fund*, 1891; Musil, *In Nordostarabien und Südmesopotamien*, 1912; *Publications of the Princeton University Expedition to Syria*; M. von Thielman, *Journey in the Caucasus, Persia and Turkey*.

Introduction.—*Add*: 'The distances given in the itinerary must be regarded as only approximate. The mileage between Deir ez-Zor and Tadmor appears to be too short by 5-10 m., but the distribution of the error cannot be traced. The total distance from Tadmor to Damascus suggested in Route (i) is probably also about 10 m. too short.'

m. 22 $\frac{1}{4}$. *Add*: 'The Qabr en-Nasrani is a small domed tomb to r. of the track.'

m. 31 $\frac{1}{4}$. **Bir Qabāqib.** *After* 'Qishlaq . . . Deir') *add*: 'on a low elevation commanding a wide view'.

After 'Draw-well . . . deep' *add*: 'The well is about 6 $\frac{1}{2}$ -7 ft. in diameter and the rock round the mouth rises about 1 $\frac{1}{2}$ ft. There are long troughs on either side and a basin hewn out of the rock.'

After 'Route . . . Qabaqib' *add*: 'There are direction-pillars along the track for some distance. These stones are about 6-8 ft. high, topped with a blunt cone and white-washed.'

- m. 55 $\frac{1}{2}$. *Add*: 'This seems to be the position of a stone fort and well, **Bir el-Jedid**. The fort has an arched door and small projecting towers at the top corners of the front wall. A light is shown on a mast at night for the guidance of caravans. The well lies immediately in front of the fort and is about 250 ft. deep. The water is bitter.
There are guide-pillars along the track here.'
- m. 59. *Add*: 'The track is now rough and stony in places.'
- m. 62 $\frac{1}{2}$. *Add*: 'The Jebel el-Buweib is a chain of low hills.'
- m. 66 $\frac{1}{2}$. *Delete* 'of a red colour . . . is' *and add*: 'The chain consists of steep bare peaks composing two massifs. The main ridge is dark red in colour, and in front of it is another, about half as high, with white-coloured slopes deeply furrowed by ravines.'
- m. 81. **Sukhneh**. *Add*: 'Sukhneh lies under a small, two-peaked ridge, on which is the tomb of Sheikh Wasil.'
After 'Jebel Dabbās on the SW.' *add*: '(see Route 57).'
For 'Resāfeh' *read* 'Rusafeh', *and add*: '(see Route 56 in the reverse direction and the first 36 m. of Route 55).'
- m. 82 $\frac{3}{4}$. *Add*: 'The latter are a chain of flat-topped summits and appear to be also called Jebel Mterer.'
- m. 97 $\frac{3}{4}$. *Add*: 'The bed of the wadi is shallow and flinty.'
- m. 103. 'As the single well . . . Palmyra.' An account of 1905 states that there are two springs of drinking-water. They lie close together, and the overflow forms a small pool from which the fellahin draw water for their fields. There are other springs, which, however, are not drunk and are full of leeches.
After 'Jebel el-Amr . . . distant' *add*: 'It gets its name from a Bedouin tribe which has been driven to take refuge in it through quarrels with the Anazeh.'
- m. 109 $\frac{1}{2}$. *Add*: 'From here the Qal'at ibn Ma'an, the mediaeval fort on a white hill above Palmyra, is visible.'

TADMOR—DAMASCUS

ROUTE (i), pp. 335-336

- m. 161? According to the most recent map **Bir el-Buseiri** appears to be about 48-50 m. from Tadmor. A path leads N. from here over the Jebel Ruwāk to the wells of El-Bardi and thence NW. over a pass called Ez-Zerqa into the

great plain between Jebel Ruwāk and Jebel Bil'as. Thence crossing the plain the track runs to Qomqom, a little to the E. of El-Jiba (see correction to *Route 58 c*, m. 14, below).

m. 191 ? For '**Jebel Raulk**' read '**Jebel Ruwāk**'.

ROUTE (ii), pp. 336-338

Introduction.—After '**Wijan er-Raml**' add: 'Parts of the plain are flooded in spring.'

- m. 124. The distance between Tadmor and **Abu Fawāris** is given by one authority as only $\frac{1}{2}$ hour's ride, i. e. not more than 2-2 $\frac{1}{2}$ m. There are wells at Abu Fawāris with sweet and cool water which flows from one well to another by an aqueduct 20 ft. below ground. The ground round the wells is moist in spring and bears an abundant crop of fodder.
- m. 132. The distance from Tadmor to '**Ain el-Beidhā**' is probably about 18 m. instead of 14 as here given.
'The well is about 50 ft. deep.' One traveller says that the depth is over 80 ft.
Delete: 'A military report . . . water.'
- m. 151. The Jebel Abyadh lies to r. (N.) of the track, not to l. as stated in the text. The *Mil. Rep.* seems to be the only authority which mentions the **Khān el-Libn**.
- m. 157. The **Wādī el-Muteireh** cuts a steep-sided ravine through the Jebel Tawil to S. The two massifs thus formed are called Jebel Hayyāl and Jebel Ruwāk respectively. Near the wadi at about this point there have been since 1900 a *qishlaq* and well called Bīr Heir. The well is about 130 ft. deep. Bīr Heir is given as 5 $\frac{1}{2}$ hrs. ride from 'Ain el-Beidhā.
- m. 170. **Qasr el-Heir**. This distance is pretty certainly wrong. The ruin of Qasr el-Heir is situated about 1 hour's ride beyond Bīr Heir, i. e. 6 $\frac{1}{2}$ hrs. from 'Ain el-Beidhā.
- m. 174. One traveller speaks of the Wādī el-Kebīr as 'not very far W. of Qasr el-Heir'. The wadi runs in short windings towards the ravines of the Jebel Tawil.
- m. 188. After cultivation begins the track crosses many small bridges of tree-trunks over water-channels with steep banks.

m. 191½. From Qasr el-Heir to **Qaryatein** is probably 24–27 m. instead of 21½ as given in the itinerary. The village lies at the foot of Jebel Wustani.

‘There are 16 wells . . .’ One authority puts the number at 10.

The Sheikh of Qaryatein in 1905 was named Fayadh. He apparently belongs to the family which has ruled the district for many generations.

Track (3). Qaryatein—Damascus *via* Quteifeh.

Delete ‘This track . . . followed’ and *substitute*: ‘The route lies in a broad depression running S. of W., bounded on the SE. by the Jebel Wustani and on the E. by the Jebel Ghazal and its continuations, the Jebel Hajula and Jebel Sukfiyeh. A ruin called Khān el-Abyadh is passed at about 18 m. (rather over 5 hrs.) from Qaryatein, and at about 35 m. (9–10 hrs.) the village of Nāsiriyyeh is reached. The village is built of about 50 stone houses and lies in the middle of the valley. There is practically no vegetation here. The village owes its existence to the exploitation by the Turkish Government of the dry salt-lake at the foot of the hills to SE. A traveller in 1905 saw trial sinkings for water, but does not state if the attempt to find water had been successful.

Orchards and gardens begin shortly after Nāsiriyyeh and the village of Atneh is passed after about 3 m. The water-supply here is from an underground aqueduct.

A path branches to l. about here and runs to Ruheibeh village (10–12 m.) at the foot of the hills to S. This track then cuts through the hills, probably following the valley of a stream called Nahr el-Mukubrit, which rises at Ruheibeh and flows into the plain of Damascus past the village of Maqsūreh (cf. *Route* 52, m. 330).

About 3–4 m. (1 hr.) beyond Atneh lies the village of Jerud, which has abundant water brought in an underground aqueduct. The road now runs through gardens and cultivated fields, between hedges and hills, and across well-watered pastures past the village of Mu‘addamiyyeh (about 4 m. from Jerud) to Quteifeh (about 2 m. beyond Mu‘addamiyyeh). At Quteifeh the Homs—Damascus road is joined (see *Handbook of Syria*).’

ROUTE 55, pp. 338-341

RAQQA—HAMA

Authorities.—*Add*: Musil, *Vorbericht über die Forschungsreise*, 1912; *Publications of the Princeton University Archaeological Expedition to Syria*.

- m. 83. **Seriyeh.** *Add*: 'In 1900 there was 1 well at Seriyeh. It was then in a deplorable condition owing to the carelessness of the Bedouin.'
- m. 114-127. According to the best map the distance from **Anderin** to **Qasr Werdān** is only about 8 m.
- m. 127. *To paragraph in small type add*:
'A road runs SW. from Selemiyeh to Tel 'Amrī (10½ m.), where there is a Circassian settlement. From there it runs to El-Mishrifeh (15 m.), a village built beside extensive high mounds which seem to mark the walls of an ancient city. The village is inhabited by Christians, the majority of whom belong to the Greek Orthodox Church, with some Greek Catholics and a few Maronites. From here the road is good and leads through flat, fertile land covered with small stones to Homs (28 m.).'

ROUTE 57, pp. 342-344

SUKHNEH—ALEPPO

Authorities.—*Add*: *Publications of the Princeton University Archaeological Expedition to Syria*.

Introduction.—*Add*: 'The distances given in the itinerary are very uncertain as far as Khunāsareh (m. 96).'

- m. 81, m. 88½, m. 96. *These figures should each be printed a line higher than they are given in the text.*
- m. 114¼. *Insert a full stop after 'Higleh'.* Jefreh and Higleh are separate villages.

ROUTE 58 a, pp. 344-345

TADMOR—HOMS

Via QARYATEIN

Authorities.—*Add*: Post, *Quarterly Statement of the Palestine Exploration Fund*, 1891.

- m. 32. *Add*: 'The water is perennial.'
 m. 78. There are 2 strong springs of good water at 'Ain el-Ghuntur (see corrections to *Route 58 c*, under m. 14).

ROUTE 58 c, pp. 348-349

TADMOR—HOMS

Via KHIRBET EL-HANŪREH

Authorities.—*Add*: Post, *Quarterly Statement of the Palestine Exploration Fund*, 1891; Musil, *Vorbericht über die Forschungsreise*, 1912; *Publications of the Princeton University Archaeological Expedition to Syria*.

Introduction.—*Delete, and substitute*: 'The route at first follows the line of *Route 54* (ii).'

- m. 14. *Add*:

ALTERNATIVE ROUTE TO HOMS via EL-JIBA

An alternative route to Homs follows *Route 54* (ii) as far as 'Ain el-Beidhā, where it branches to r. from the Damascus road, running across the plain apparently ESE. and passing about 8 m. N. of Qasr el-Heir. There appears to be no drinking-water along the track till El-Jiba is reached (13½ hrs. ? about 40 m. from 'Ain el-Beidhā).

At El-Jiba there is a perennial stream about 1 ft. wide and a few inches deep. The water tastes of sulphur, but less strongly than that of El-Beidhā and Tadmor. There are a few huts beside the stream and a little cultivation. The place belongs to the Sheikh of

Qaryatein. El-Jiba is connected by a track with the main route. This path runs NE. to El-Ferklus (see m. 55). It passes near some hot springs at a place called Abu Rubah (temperature 124° F.). At another place called Muran in the same district there is lignite.

About 6-7 m. beyond El-Jiba is 'Ain el-Ghuntur, a wretched village on the edge of the desert, built partly of ancient stones. There are 2 strong springs of good water here and a considerable area of irrigated ground.

The track now runs NE. over rolling barren hills to Es-Sait (6 hrs., perhaps 20 m. from 'Ain el-Ghuntur). Beyond this point it runs over rolling, park-like country, increasingly fertile and cultivated, *via* Abu Dali to Homs.

m. 55. For '**El-Perklus**' read '**El-Ferklus**'.

Add: 'One account states that there is abundant water at El-Ferklus.'

P. 349. Add the following notes:

(a) OLD CARAVAN-ROUTE: ABU KEMĀL—ALEPPO

Besides the great desert routes detailed in this section there was formerly a regular caravan-route from Basra to Aleppo passing across the desert by way of Qasr Bīr Shagrah (S. of Nāsiriyyeh), Ukheidir (W. of Kerbela), Temāil (*Route* 51), Kebeiseh (*Route* 52), Jubb Ghanam (W. of Abu Kemāl), and 'Ain el-Qom (*Route* 56). Another route left the Euphrates at Abu Kemāl and joined the route from Basra at Jubb Ghanam. It is not known whether the track is still used, but there are some indications that it is followed by sheep-drovers.

The following are some details of the Abu Kemāl—Aleppo route, taken from old authorities.

Caravans from Basra or Baghdad left the Euphrates near Abu Kemāl and struck into the Syrian Desert. The following seem to have been usual halting-places :

Miles from Abu Kemāl	Place	Water
35	Jubb Ghanam	Group of wells
76	El-Jehar	Wells, good water
116	Qasr Aukheim	No water reported
128	Ain el-Qom	Large spring
161	Et-Turkmaniyeh	No water reported
181	Abul Menteh	Wells, bad water
208	Zebed	Spring W. of track
223	Higleh	Well of bad water
235	'Ain Safireh	See <i>Route 57</i> , m. 125
249	Aleppo	

An alternative route from Et-Turkmaniyeh went by 'Ain ez-Zarqā (see *Route 56*, m. 77) and El-Hammām passing S. and W. of Jebel Shebet.

(b) THE COUNTRY BETWEEN EL-HAMMĀM AND DEIR EZ-ZOR

In 1912 a party of travellers crossed from El-Hammām to Deir ez-Zor over the Jebel Bishr. The track ran SSE., passing not far E. of Rusafeh, and then, crossing some wadis, to the watering-place of Er-Rehub (38-40 m. from El-Hammām) on the Jebel Bishr. At one place in the plain a cave, called Ed-Dahal by the natives and said to be several miles long, was seen. It runs about 150 ft. below ground and has fallen in at the southern end. There are other similar breaks in the ground to S. and SE. at the foot of the Jebel Bishr.

The wells of Rehub (also called Rehum) are about 150 ft. deep and have a perennial supply of good water.

Beyond Er-Rehub no distinct path was found across the Jebel Bishr. The valleys are deep, and the N. slope of the hills is very steep. The summit of the ridge is about 3,300 ft. above the sea and about 2,000 ft. above the plain.

Springs were reached at El-Quseibeh, about 50 m. E. of Er-Rehub, and from here the remaining 20 m. of desert was crossed to Deir, along a line apparently not far N. of the Deir—Damascus caravan-route.

(c) THE COUNTRY BETWEEN TADMOR AND EL-HAMMĀM

In 1912 the party already referred to in Note (b) went from Tadmor to the Euphrates at El-Hammām. After following the track via Jisel for some distance (see *Route 58 b*) they turned N. into hilly country. The mountain-system as a whole here is called Abu Rijmen. It is composed of white limestone. The valleys are in general broad and shallow, the slopes easy, and in places thickly covered with terebinth-trees. In the north-western area there are extensive oak woods. Traces of ancient cultivation are to be seen everywhere, and there are many springs, most of them marked by the ruins of small villages.

After about 27 m. the direction of the route changed to NE., and the summit was reached at the pass of Ed-Defā'i (alt. about 5,000 ft.; apparently about 40 m. from Tadmor). From here a wide view is obtained of the plain to N. The mountains fall steeply on that side and the foothills are formed of low ridges, with a general direction from S. to N. and a slope to the N.

At about 52 m. from Tadmor a sharp turn was made NW. for about 7 m. to the watering-place of El-Kedem (see *Route 57*, m. 33). Here the direction again changed to N. for 19 m. to the fort called Et-Turkmaniyeh, situated on the most northerly spur of the El-'Aweyr ridge. The building is rectangular and probably of Roman construction. The position is visible from Rusafeh, and it was probably important as commanding the approaches to watering-places.

In February 1912 snow 3 ft. deep lay in this region for 22 days, and many sheep and goats died of exposure.

From Et-Turkmaniyeh the direction followed was ENE. for 31 m. to Rusafeh, where *Route 55* was joined.

GAZETTEER OF TOWNS, pp. 350-377

ALTUN KÖPRÜ. The population is given on good authority as 1,500-2000.

The bridge over the eastern channel of the Lesser Zāb described in the text is not passable for wheels and is apparently in bad repair. The bridge over the western channel is said to be passable by carts.

ERBIL. The estimate for population appears very much exaggerated. It should probably be about 6,000-7,000.

HĪT. For a few more details see Vol. II, Appendix D, and the correction to *Route* 46, m. 103½.

KHANIKIN. *General Description.*—The bridge at Khanikin is reported in one account to have 14 spans, with a total length of 130 yds. and a roadway of 20 ft.

The 60 yds. given in the text as the breadth of the river probably applies to the flood-width. According to a report of 1917 it is about 60 ft. wide and 2 ft. deep. The bottom is pebbly and easy for wheels.

SALĀHIYEH.

Nasāleh coal-workings. The daily output of coal is reported to have been 40-50 tons before the fall of Baghdad, after which it dropped 'to less than 10 tons' owing to lack of labour and transport. There are said to be 4 pits, of which 2 are worked, producing good and plentiful coal. A steam-pump has apparently been erected. In November 1917 the Turks fired surface dumps during their temporary retirement in this region, but not, apparently, the mines themselves.

SAMARRA. *After* 'The Baghdad railway . . . (see Appendix)' add: 'A narrow-gauge line runs from the raft landing-stage to the main line.'

Supplies and Commerce.—There are some old wells in the plain, and wells could be sunk there anywhere and get water at 30 ft. On the plateau deeper wells would probably find water, but would involve much labour.

APPENDIX, pp. 395-399

BAGHDAD-SAMARRA RAILWAY, p. 395

After 'Time taken . . . 5 hrs.' add :

'The telegraph follows the line. The railway embankment is from 2 to 8 ft. high, with brick culverts where necessary.

There are bridges or large culverts at m. $3\frac{1}{8}$, m. $4\frac{5}{8}$ (Nahr Tabji), m. $10\frac{1}{8}$, m. $10\frac{3}{4}$, m. $11\frac{1}{2}$, m. 12, m. $12\frac{5}{8}$, m. $12\frac{7}{8}$, m. $13\frac{3}{4}$.

m. $25\frac{1}{2}$. For '**Khān Meshādidīyeh**' read '**Meshāhidīyeh**'. The distance to this point should be 25 m. instead of $25\frac{1}{2}$ m.

RIVER ROUTES, pp. 395-396

Delete section (i) on times taken by shakhtūr between Meskeneh and Fellūjeh. Substitute :

'Times vary from about 10 to about 45 days according to the state of the river, the wind, &c.'

ROUTES FROM KHANIKIN AND QASR-I-SHĪRĪN TO
SULEIMĀNIYEH AND HALEBJEH, pp. 396-399

*In Route (iii) on p. 398 after '**Chiāh Surkh**' add :*

'The output of crude oil here is said to be about 5,000 gals. per month, a quantity which could be greatly increased by baling and pumping. The oil has a fair proportion of commercial benzines and heavy petrols. Light products, except benzines, are very liable to escape before getting into the stills. Refining is easy, owing to the absence of sulphur.'

OUTLINE MAP SHOWING ROUTES

(In pocket at end of volume)

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